

HABITAT TECHNOLOGIES

ENVIRONMENTALLY CRITICAL AREAS ASSESSMENT AND WETLAND BUFFER ESTABLISHMENT PROGRAM (wetlands, streams, critical habitats)

**Springwood Garden Residential Community
Parcel 09680073000
1609 Springwood Avenue NE
City of Olympia, Washington**

*This document incorporates modifications to address review comments provided
by City of Olympia Environmental Review Staff*

prepared for

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A VETERAN OWNED SMALL BUSINESS COOPERATIVE

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INTRODUCTION

The purpose of this document is two-fold. First, this document details the culmination of activities and onsite evaluations undertaken to complete an onsite assessment and characterization of environmentally critical areas (wetlands, surface water drainage corridors/streams, and critical fish and wildlife habitats) as a part of future planning for potential site development actions within **Parcel 09680073000 (project site)** located at 1609 Springwood Avenue NE within the City of Olympia (Figure 1). Second, this document details the buffer establishment program to be implemented to ensure that the proposed development of the Springwood Garden Residential Community does not create an adverse impact on identified offsite environmentally critical areas and that a functional stormwater management system is created to ensure the protection of local water quality.

The evaluation and delineation of onsite and adjacent environmentally critical areas is a vital element in the planning and selection of a site development action. The goal of this approach is to ensure that planned site development does not result in adverse environmental impacts to these identified critical areas or their associated protective buffers. **Please Note** that this assessment did not include an evaluation of potential seismic hazard areas, potential landslide hazard areas, potential septic suitability, potential geological hazard areas, or potential wellhead protection areas.

The onsite assessment and evaluation of critical areas within and immediately adjacent to the project site was completed following the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the 2014 Washington State Department of Ecology *Wetland Rating Form for Western Washington* (Hruby, T. & Yahnke, A. 2023); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Olympia Chapter 18.32 – Critical Areas.

PROJECT SITE DESCRIPTION

The project site was somewhat rectangular in shape, approximately 7.06-acres in size, and had undergone prior and ongoing land use manipulations and management. These prior and ongoing land use actions have included clearing and grading, pasture creation and management, single-family homesite and associated outbuilding development, fencing, creation of managed lawn and landscaped areas, the development of adjacent properties, and the development of adjacent public roadways. The project site was within an area of existing single-family homes on similarly sized parcels that were quickly converting into higher density residential communities. The project site was bound to the south, east, and west by existing single-family homesites and to the north by Springwood Avenue NE.

Directions to Project Site: From 4th Avenue East turn north onto Tullis Street NE. Continue northerly on Tullis Street NE to San Francisco Avenue NE. Turn east onto San Francisco Avenue NE and turn almost immediately north onto Bethel Street NE. Continue northerly on Bethel Street NE to Springwood Avenue NE. Turn east onto Springwood Avenue NE and continue to the project site located at 1609 Springwood Avenue NE.

BACKGROUND INFORMATION

NATIONAL WETLAND INVENTORY

The *National Wetland Inventory (NWI) Mapping* completed by the U.S. Fish and Wildlife Service was reviewed as a part of this assessment (Figure 2). This mapping resource did not identify any wetlands or drainage corridors within or immediately adjacent to the project site. This mapping resource identified offsite wetlands well offsite to the east of the project site associated with Setchfield Lake and surface water drainages offsite to the north and south of the project site.

STATE OF WASHINGTON PRIORITY HABITATS AND SPECIES

The State of Washington *Priority Habitats and Species (PHS) Mapping* was reviewed as a part of this assessment (Figure 3). This mapping resource did not identify any priority habitats within or immediately adjacent to the project site. This mapping resource identified Setchfield Lake well offsite to the east and Mission Creek well offsite to the south of the project site. This mapping resource identified the potential presence of Yuma myotis (*Myotis yumanensis*), little brown bat (*Myotis lucifugus*), and big brown bat (*Eptesicus fuscus*) within the same township as the project site.

STATE OF WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

The State of Washington Department of Fish and Wildlife (WDFW) *SalmonScape Mapping* was reviewed as a part of this assessment (Figure 4). This mapping resource did not identify any wetlands or stream corridors within or immediately adjacent to the project site. This mapping resource identified wetland areas offsite to the east of the project site and Mission Creek offsite to the south.

STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

The State of Washington Department of Natural Resources (WDNR) *Water Type Mapping* was reviewed as a part of this assessment (Figure 5). This mapping resource did not identify any stream corridors or wetlands within or immediately adjacent to the project site. This mapping resource identified wetland areas offsite to the east of the project site associated with Setchfield Lake and Mission Creek offsite to the south of the project site. Mission Creek is defined as a WDNR Type F Water (fish bearing).

THURSTON COUNTY MAPPING

The Thurston County *Inventory Mapping* resource was reviewed as a part of this assessment (Figure 6). This mapping resource did not identify any drainage corridors or wetlands within the project site. This mapping resource identified a few offsite wetlands and surface water drainage corridors.

SOILS MAPPING

The *Soil Mapping Inventory* completed by the Natural Resources Conservation Service was reviewed as a part of this assessment (Figure 6). This mapping resource identified the soil throughout the project site as Yelm fine sandy loam (126). The Yelm soil series is defined as moderately well drained, as formed in glacial outwash within relict glacial lacustrine lakes, and as not meeting the criteria for designation as a “hydric” soil.

ONSITE ANALYSIS

CRITERIA FOR CRITICAL AREAS IDENTIFICATION

The City of Olympia defines “critical areas” within Chapter 18.32 to include seismic hazard areas, landslide hazard areas, geological hazard areas, wetlands, streams and priority riparian areas, important habitats and species, and wellhead protection areas. The *Environmentally Critical Areas Assessment* presented within this document has focused solely on potential wetlands, potential streams and priority riparian areas, and potential important habitats and species within or immediately adjacent to the project site.

WETLANDS

The City of Olympia defines "wetlands" as those areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands (18.32.505).

Wetlands are transitional areas between aquatic and upland habitats. In general terms, wetlands are lands where the extent and duration of saturation with water is the primary factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface (Cowardin, et al., 1979). Wetlands are generally defined within land use regulations as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (United States Army Corps of Engineers, 1987).

Wetlands exhibit three essential characteristics, all of which must be present for an area to meet the established criteria (United States Army Corps of Engineers, 1987 and United States Army Corps of Engineers, 2010). These essential characteristics are:

- 1. Hydrophytic Vegetation:** The assemblage of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to influence plant occurrence. Hydrophytic vegetation is present when the plant community is dominated by species that require or can tolerate prolonged inundation or soil saturation during the growing season.
- 2. Hydric Soil:** A soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper parts. Most hydric soils exhibit characteristic morphologies that result from recent periods of saturation or inundation. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods.
- 3. Wetland Hydrology:** Permanent or periodic inundation, or surface soil saturation, at least seasonally. Wetland hydrology indicators are used in combination with indicators of hydric soil and hydrophytic vegetation to define the area. Wetland hydrology indications provide evidence that the site has a

continuing wetland hydrology regime. Where hydrology has not been altered vegetation and soils provide strong evidence that wetland hydrology is present.

STREAMS AND PRIORITY RIPARIAN AREAS

The City of Olympia defines "streams" as an area where surface waters flow sufficiently to produce a defined channel or bed, an area which demonstrates clear evidence of the passage of water including but not limited to bedrock channels, gravel beds, sand and silt beds and defined-channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses unless they are used to convey streams naturally occurring prior to construction (18.32.405).

The City of Olympia defines "priority riparian areas" as those marine and lake shorelines, as measured from the ordinary high water mark, in the following locations:

1. The eastern shore of Budd Inlet from the southern property line of Priest Point Park northward to the city limits;
2. The western shore of Budd Inlet (in the Port Lagoon) from 4th Avenue NW northward to the extension of Jackson Avenue NW, but not including the BNSF railroad causeway and trestle or their western or eastern shores; West Bay Drive NW; Olympic Way NW; and parcels west of the rights-of-ways of West Bay Drive NW and Olympic Way NW;
3. The western shore of Budd Inlet (north of West Bay Drive) from the extension of 24th Avenue NW northward to the city limits, being approximately six hundred and fifty (650) feet from the end of the fill to the city limits;
4. The eastern shore of Capitol Lake (in the Middle Basin) from the extension of 13th Avenue SE (Olmsted Brothers Axis) southward to the right of way of Interstate 5;
5. The eastern shore of Capitol Lake (in the South Basin) from the right of way of Interstate 5 southward to the city limits; and
6. The western shore of Capitol Lake (in Percival Cove) from the intersection of Lakeridge Drive SW and Deschutes Parkway SW westward to the mouth of Percival Creek (a point due north of the terminus of Evergreen Park Court SW).

IMPORTANT HABITATS AND SPECIES

The City of Olympia defines "important habitats and species" as those habitats or species known to occur within Thurston County and which may be found within the City of Olympia, and which are not receiving habitat protection by another critical area category (streams, wetlands, or landslide hazard areas) in this Chapter and (18.32.305):

- A. Are designated as endangered or threatened species identified under the Endangered Species Act; or
- B. Are state priority species identified on the Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) List and their habitats of primary association. (Consult the state WDFW for the current PHS list); or
- C. Are designated as "locally important habitat or species" pursuant to OMC 18.32.327; or
- D. Are areas in Olympia that serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem, and which, if altered, may reduce the likelihood that the species will persist over the long term. These areas may include, but are not limited to, rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness.
- E. Small lakes, defined as naturally existing bodies of standing water less than twenty acres in size that exist on a year-round basis in a depression of land or expanded part of a stream and not defined as "Shorelines of the State" by RCW 90.58 (Shoreline Management Act), are considered an "important habitat." This term does not apply to constructed ponds.

STUDY METHODS

Habitat Technologies completed a specific onsite assessment of **Parcel 09680073000** on October 16, 2024 - during a period of seasonal temperate weather. To address City of Olympia comments provided by City of Olympia Environmental Review Staff, additional onsite assessments were completed during the end of May through the middle of June 2025. The onsite assessment was completed consistent with the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the 2014 Washington State Department of Ecology *Wetland Rating Form for Western Washington* (Hruby, T. & Yahnke, A. 2023); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and the City of Olympia *Chapter 18.32 – Critical Areas*. Field data sheets are provided in Appendix A and the location of each sample plot is provided on an attached sample plot graphic.

FIELD OBSERVATION

The project site appeared to have been historically managed as a single-family homesite and included a number of outbuildings, landscape areas, produce gardens, lawn, and livestock pasture areas. The existing single-family homesite and associated buildings were generally within central portion of the project site. The western portion of

the project site was dominated by managed lawn and produce garden areas, and remnant retained areas of native vegetation. The eastern portion of the project site exhibited a forest overstory with shrubs and herbs that appeared to have historically been dedicated to livestock pasture. The project site was bound by a residential community to the south, single-family homesites to the west and east, and Springwood Avenue NE to the north.

Soils

As documented at representative sample plots throughout the project site the onsite soils typical exhibited characteristics typical of the Yelm soil series. Soil texture was generally fine sandy loam to loam that appeared to drain moderately well to well. Surface soil coloration to a depth of four (4) to ten (10) inches ranged from very dark grayish brown (10YR 3/2) to dark grayish brown (10YR 4/3). The subsoil to a depth of approximately 24 inches exhibited a generally dark brown (10YR 3/3) to dark yellowish brown (10YR 4/4) coloration. The onsite soils did not exhibit prominent redoximorphic features.

No portion of the project site was identified to exhibit field characteristics typically associated with “hydric” soils.

A single small depression (approximately 400 square feet in size) was present within an internal roadway through the northeastern portion of the project site. This small depression was identified as an intentionally created feature through an upland forested area in a location where the internal roadway makes a 90 degree turn allowing vehicles and equipment to create a pothole. The soil within this created depression exhibited field indicators of hydric soils (see Sample Plot SPT2).

Hydrology

Onsite hydrology appeared to be the result of seasonal stormwater runoff from onsite and from adjacent homesites and public roadways. The entire project site appeared to drain moderately well to well. No portion of the project site was identified to exhibit field characteristics typically associated with wetland hydrology patterns or the concentrated channelization of surface water movement.

No portion of the project site was identified to exhibit field characteristics typically associated with wetland hydrology patterns or the concentrated movement of surface water.

As single small depression (approximately 400 square feet in size) was present within an internal roadway through the northeastern portion of the project site. This small depression was identified as an intentionally created feature through an upland forested area in a location where the internal roadway makes a 90 degree turn allowing vehicles

and equipment to create a pothole. The small depression was isolated and identified to pond surface water for a short period of time during the late winter and early growing season. Field indicators of short-term seasonal hydrology included algae matting and water stained leaves (see Sample Plot SPT2).

A very shallow field ditch was also identified in the northwestern portion of the project site. This shallow field ditch appeared to have at one time attached to a culvert associated with the roadway along the northern project site boundary and to extent to the southern boundary of the project site. However, as noted by the property owner land modifications undertaken a few decades ago by adjacent neighbors had filled the offsite portion of this ditch to the south of the project site. Onsite this ditch appeared to intermittently pond surface water for very short periods of time following seasonal storm events. However, this field ditch did not exhibit prominent field indicators of hydric soils and appeared to drain moderately well (see Sample Plot SPT12).

Vegetation

The project site exhibited a mixed plant community that had undergone prior land use manipulations and modifications. The western and central portions of the project site exhibited managed lawn, produce gardens, and retained remnant native vegetation areas. Observed species included Douglas fir (*Pseudotsuga menziesii*), Western red cedar (*Thuja plicata*), red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*), Cottonwood (*Populus trichocarpa*), cherry (*Prunus* spp.), paper birch (*Betula papyrifera*), hawthorne (*Crataegus monogyna*), Pacific red elderberry (*Sambucus racemosa*), evergreen blackberry (*Rubus laciniatus*), Himalayan blackberry (*Rubus armeniacus*), Scots broom (*Cytisus scoparius*), Indian plum (*Oemleria cerasiformis*), holly (*Ilex* spp.), hazelnut (*Corylus cornuta*), ivy (*Hedera* spp.), nettle (*Urtica dioica*), bluegrass (*Poa* spp.), dandelion (*Taraxacum officinale*), cats ear (*Hypochaeris radicata*), clover (*Trifolium repens*), and buttercup (*Ranunculus* spp.). This plant community was identified as non-hydrophytic in character (typical of uplands).

The eastern portion of the project site appeared to have historically been utilized as livestock pastured woodlot. This area exhibited a forested overstory that included dense areas of blackberry thickets. Observed species included red alder, big leaf maple, cottonwood, cherry, Indian plum, Pacific red elderberry, hazelnut, Oregon grape, salal, Himalayan blackberry, evergreen blackberry, trailing blackberry (*Rubus ursinus*), rose (*Rosa* spp.), Indian plum (*Oemleria cerasiformis*), Oregon grape (*Berberis nervosa*), hazelnut (*Corylus cornuta*), salal (*Gaultheria shallon*), elderberry, salmonberry (*Rubus spectabilis*), sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilium*), nettle, ivy, and yellow archangle (*Lamium galeobdolum*). This plant community was identified as non-hydrophytic in character (typical of uplands).

No portion of the project site was identified to exhibit a predominant wetland plant community.

As single small depression (approximately 400 square feet in size) was present within an internal roadway through the northeastern portion of the project site. This small depression was identified as an intentionally created feature through an upland forested area in a location where the internal roadway makes a 90 degree turn allowing vehicles and equipment to create a pothole. The plant community within this created depression was dominated by bluegrass, reed canarygrass, tall buttercup, and bare ground (see Sample Plot SPT2).

Wildlife Observations

The majority of observed wildlife species are commonly present within urban areas. Species observed onsite, species that would be expected to utilize the habitats provided by the project site, and species that may potentially utilize the habitats provided by the project site included include red tailed hawk (*Buteo jamaicensis*), merlin (*Falco columbarius*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachynchos*), Northern flicker (*Colaptes auratus*), violet green swallow (*Tachycineta thalassina*), tree swallow (*Tachycineta bicolor*), American robin (*Turdus migratorius*), song sparrow (*Melospiza melodia*), black capped chickadee (*Parus atricapillus*), dark-eyed junco (*Junco hyemalis*), bats (*Myotis* spp.), purple finch (*Carpodacus purpureus*), house finch (*Carpodacus mexicanus*), white crowned sparrow (*Zonotrichia leucophrys*), brown creeper (*Certhia americana*), bushtit (*Psaltriparus minimus*), evening grosbeak (*Coccothraustes vespertina*), rufous sided towhee (*Pipilo erythrophthalmus*), starling (*Sturnus vulgaris*), rock dove (*Columbia livia*), Steller jay (*Cyanocitta stelleri*), Anna's hummingbird (*Calypte anna*), rufous hummingbird (*Selasphorus rufus*), black tailed deer (*Odocoileus hemionus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), Western screech owl (*Otus kennicotti*), deer mouse (*Peromyscus maniculatus*), shrew (*Sorex* spp.), mole (*Scapanus* spp.), bats (*Myotis* spp.), eastern gray squirrel (*Sciurus carolinensis*), Douglas squirrel (*Tamiasciurus douglasi*), eastern cottontail (*Sylvilagus floridanus*), Norway rat (*Rattus norvegicus*), black rat (*Rattus rattus*), and vole (*Microtus* spp.).

The project site was not identified to provide spawning or juvenile rearing habitats for amphibians and was not observed, and has not been documented, to provide direct habitats for fish species.

MOVEMENT CORRIDORS: The project site was generally located within a well urbanized residential area. The project site appeared well used by the daily movements of small to medium sized wildlife species and was within the seasonal migratory pathways for a variety of passerine birds. The project site was also identified to be well used by domestic pets. In addition, the entire project site has been modified and managed for residential uses for several decades. As a result of this manipulation, no portion of the project site exhibited characteristics typically associated with a "prairie ecosystem."

State Priority Species

Several species identified by the State of Washington as “Priority Species” were observed onsite or potentially may utilize the project site. Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance.

Game Species: “Game species” are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. Observed or documented “game species” within and adjacent to the project site included black-tailed deer and mourning dove.

State Candidate: State Candidate species are presently under review by the State of Washington Department of Fish and Wildlife (WDFW) for possible listing as endangered, threatened, or sensitive. No State Candidate species were observed or have been documented to utilize the habitats provided within the project site.

State Sensitive: State Sensitive species are native to Washington and are vulnerable to declining and are likely to become endangered or threatened throughout a significant portion of its range without cooperative management or removal of threats. No State Sensitive species were observed or have been documented to utilize the habitats provided within the project site.

State Threatened: State Threatened species means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats. The project site did not appear to provide, and has not been documented to provide, direct critical habitats for State Threatened species.

State Endangered: State endangered species means any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state. The project site did not appear to provide, and has not been documented to provide, direct critical habitats for State Endangered species.

Federally Listed Species

The project site was not identified and has not been documented to provide critical habitats for federally listed endangered, threatened, or sensitive species. A single, federally listed “species of concern” – bald eagle – has been observed and documented

to utilize the habitats provided along the shoreline of Puget Sound, larger surface water drainages, area lakes, and ponds within the general area of the project site.

ENVIRONMENTALLY CRITICAL AREAS FINDINGS

Environmentally critical areas determination was based on the methods and criteria outlined in following the methods and procedures defined in the *Corps of Engineers Wetland Delineation Manual* (United States Army Corps of Engineers, 1987) with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (United States Army Corps of Engineers, 2010); the 2014 Washington State Department of Ecology *Wetland Rating Form for Western Washington* (Hruby, T. & Yahnke, A. 2023); the State of Washington Department of Natural Resources (WDNR) Forest Practice Rules (WAC 222-16-030); and City of Olympia Chapter 18.32 – Critical Areas.

WETLAND AND STREAMS/PRIORITY RIPARIAN AREAS FINDINGS

ONSITE: This assessment identified that **no** portion of the project site exhibited field characteristics meeting all three of the established criteria for designation as “wetland” and that **no** portion of the project site exhibited field characteristics associated with a “stream” or a “priority riparian area.”

As noted above, a single small depression (approximately 400 square feet in size) was present within an internal roadway through the northeastern portion of the project site. This small depression was identified as an intentionally created feature through an upland forested area in a location where the internal roadway makes a 90 degree turn allowing vehicles and equipment to create a pothole. As such, this created and managed feature was not identified as a “wetland” because it was created within a nonwetland area.

In addition, the City of Olympia has identified within **OMC18.32.515 Wetlands – Small Wetlands** that wetlands less than one thousand (1,000) square feet shall be exempt from the requirements of OMC 18.32.135; wetland buffers in OMC18.32.535; compensation projects in OMC18.32.545; and replacement ratios in OMC 18.32.550 provided that the wetland or pond:

1. Is an isolated Category III or IV wetland;
2. Is not associated with a riparian corridor;
3. Is not part of a wetland mosaic; and
4. Does not contain habitat identified as essential for local populations of priority species identified by the Washington State Department of Fish and Wildlife; and
5. No part of the wetland is within shorelines of the State of Washington, except as authorized by OMC 18.20.420.C.3.

Should this small internal roadway depression be considered to meet the criteria for identification as a regulated wetland by the City of Olympia this small depression would meet all five of the established criteria.

OFFSITE: An offsite wetland (noted as Wetland A) was documented in a prior report completed by EnviroVector dated April 21, 2023 (Appendix C). This report identified a City of Olympia Category III emergent wetland (Offsite Wetland A) within a depression to the south of the southwestern portion of the project site that eventually outlet via an excavated ditch to Mission Creek and associated Offsite Wetland B further to the south (Figure 8).

Offsite Wetland A: Offsite Wetland A was identified on an adjacent property to the south of the southwestern portion of the project site. This offsite area had been greatly impacted through vegetation removal, shallow pond excavation, the placement of internal and perimeter modifications (logs, downed trees, vegetation, asphalt, concrete, excavated and imported soils). The southern outlet for this wetland was identified as an excavated deep channel and armoring the cut with logs cut from the trees in the buffer. Offsite Wetland A was dominated by an emergent plant community along with limited areas of shrubs, trees, and aquatic communities. Wetland hydrology was provided by seasonal stormwater runoff from onsite, seasonal stormwater runoff from the adjacent parcels, roadside runoff, prior ditching, and seasonal surface water flow within the wetland. Wetland A was identified as a slope/depressional wetland and connected via a previously modified and recently restored ditch southward into Offsite Wetland B and the Mission Creek Corridor.

As defined within the EnviroVector assessment as verified by the City of Olympia, Offsite Wetland A met the U.S. Fish and Wildlife Service (USFWS) criteria for classification of palustrine, emergent, seasonally flooded, excavated (PEMCx).

SPECIAL NOTE: As requested by the City of Olympia, Habitat Technologies has re-categorized Offsite Wetland A using the recently adopted Washington State Department of Ecology (WDOE) *Wetland Rating Form for Western Washington* (Hruby and Yahnke, 2023). However, since Habitat Technologies could not obtain permission to enter onto the property containing Offsite Wetland A, this re-categorization utilized the information provided within the EnviroVector assessment (Appendix C) to address many of the rating issues. In particular, Offsite Wetland A was identified as independent from Offsite Wetland B and the associated Mission Creek Corridor because of a previously established excavated outlet drainage ditch approximately 60 linear feet in length, Offsite Wetland A was identified as a headwater wetland, Offsite Wetland A exhibited both an emergent and scrub/shrubs plant community, and that there were three priority habitats with 100 meter of Offsite Wetland A.

Offsite Wetland A was identified as a part of the assessment documented above as meeting the present criteria for identification of a City of Olympia Category II Wetland and achieved a total functions score of 20 points (6 habitat points) utilizing the

Washington State Department of Ecology (WDOE) *Wetland Rating Form for Western Washington* (Hruby and Yahnke, 2023) (Appendix B).

OFFSITE WETLAND	CLASSIFICATION (USFWS)	OLYMPIA CATEGORY	WDOE RATING SCORE	WDOE HABITAT SCORE	BUFFER WIDTH (standard)
A	PEMC	II	20	6	180

Offsite Wetland Buffer Modification: As defined by the professional surface associated with Offsite Wetland A as defined within the EnviroVector assessment the presently defined standard buffer for Offsite Wetland A of 180 feet in width would encroach onto the southwestern corner of the project site. As provided within **18.32.535 - Wetland Buffers** the City of Olympia may allow a modification of the required wetland buffer width by either allowing a **reduction** pursuant to OMC 18.32.535(G) or by allowing **averaging** of buffer widths OMC 18.32.535(F):

Wetland buffer width averaging may be allowed when all of the following are met (OMC 18.32.535(F):

1. The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component or a "dual-rated" wetland with a Category I area adjacent to a lower rated area,
2. The buffer is increased adjacent to the higher-functioning area of habitat or more sensitive portion of the wetland and decreased adjacent to the lower functioning or less sensitive portion,
3. The total area of the buffer after averaging is equal to the area required without averaging, and
4. The buffer at its narrowest point is never less than seventy five percent (75%) of the required width.

Where wetland buffer width averaging has **not** been used the City of Olympia may allow a reduction of the required wetland buffer width by no more than twenty five percent (25%) provided the following are met (OMC 18.32.535(G):

1. For wetlands that score six (6) points or more for the habitat functions, if both of the following criteria are met:
 - a. A relatively undisturbed, vegetated corridor at least one hundred (100) feet wide is protected between the wetland and any other priority habitats as defined by the Washington State Department of Fish and Wildlife. The corridor must be protected for the entire distance between the wetland and the priority habitat by legal protection such as a conservation easement.
 - b. Measures to minimize the impacts of different land uses on wetlands, such as those described in *Wetland Guidance for CAO Updates, Western Washington (2016) Ecology publication #16-06-001*, as amended or

revised, are applied. Examples of these measures include directing lighting away from wetland, locating noise generating activities away from the wetland, and densely planting the buffer to act as barrier to pets and human disturbance.

2. For wetlands that score five (5) points or less for habitat function, apply the provisions of OMC 18.32.535(G)(1)(b).

As defined within the *Wetland Guidance for CAO Updates, Western Washington (2016) Ecology publication #16-06-001* the following are examples of the measures that may be implemented to minimize the impacts of different land uses on wetlands.

Examples of Disturbance	Examples of Measures to Minimize Impacts	Activities that Cause the Disturbance
Lights	<ul style="list-style-type: none"> • Direct lights away from wetland 	<ul style="list-style-type: none"> • Parking Lots, Warehouses, Manufacturing, High Density Residential
Noise	<ul style="list-style-type: none"> • Place activity that generates noise away from the wetland. 	<ul style="list-style-type: none"> • Manufacturing, High Density Residential
Toxic runoff	<ul style="list-style-type: none"> • Route all new untreated runoff away from wetland, • Covenants limiting use of pesticides within 150 feet of wetland • Integrated pest management programs 	<ul style="list-style-type: none"> • Parking Lots, Roads, Manufacturing, Residential Areas, Application of Agricultural Pesticides, Landscaping
Change in water regime	<ul style="list-style-type: none"> • Infiltrate or treat, detain and disperse into buffer new runoff from surfaces 	<ul style="list-style-type: none"> • Any impermeable surface, Lawns, Tilling
Pets and Human disturbance	<ul style="list-style-type: none"> • Fence around buffer • Plant buffer with "impenetrable" natural vegetation appropriate for region 	<ul style="list-style-type: none"> • Residential areas
Dust	<ul style="list-style-type: none"> • BMPs for dust 	<ul style="list-style-type: none"> • Tilled fields

FISH AND WILDLIFE HABITAT CONSERVATION AREA FINDINGS

This assessment identified that **no** portion of the project site exhibited field characteristics typically associated with City of Olympia defined "*important habitat and species areas*" (18.32.305). The project site has not identified and has not been documented to provide habitats for federal endangered, threatened, or sensitive species; has not been identified and has not been documented to provide habitats for state listed endangered, threatened, sensitive, or candidate species; has not been identified and has not been documented to provide documented "locally important habitat or species;" has not been identified to serve a critical role in sustaining needed habitats and species for the functional integrity of the ecosystem; and has not been

identified to exhibit naturally existing bodies of standing water less than twenty acres in size.

SELECTED DEVELOPMENT ACTION

The *Selected Development Action* focuses on the development of the **Springwood Garden Residential Community** consistent with the City of Olympia *Comprehensive Plan*, local zoning, the character of the local neighborhood, the provisions of the City of Olympia *Chapter 18.32 – Critical Areas*, the City of Olympia provisions for stormwater management and protection. As presented above, the development of this residential community can be accomplished without adversely impacting environmentally critical areas (wetlands, surface water drainage corridors/streams, or critical fish and wildlife habitats) within or adjacent to the new residential community.

ONSITE BUFFER ESTABLISHMENT AND RESTORATION PROGRAM

Site planning for the Springwood Garden Residential Community has focused on the mandated hierarchy of environmentally critical areas impact avoidance and reduction through a process of **1) avoidance, 2) minimization, and 3) compensation**. As presently defined, the proposed residential site development action would avoid both direct and indirect adverse impacts to the identified offsite environmentally critical areas – wetlands and the Mission Creek Corridor. These avoidance measures would ensure that there would be **no net loss** of offsite wetland or stream corridor functions and values and no adverse impact to local water quality as a part of this proposed residential development action.

As noted above, a City of Olympia Category II Wetland has been identified offsite to the south of the southwestern corner of the project site. The standard buffer for this offsite wetland is defined as 180 feet in width and is to be measured along a line perpendicular to the wetland boundary. The majority of the standard buffer associated with this offsite wetland is located offsite and has been previously restored. To allow for the reduction of this standard buffer of 180 feet to **not less than** 135 feet in width the proposed development of the onsite residential community would implement a variety of measures to minimize the potential adverse impacts that the proposed site development action would have on this offsite wetland or on local water quality. Such measures to be implemented would include the best management practices to manage and minimize dust during and following construction; the utilization of directional lighting within the residential community to minimize encroachment into the established buffer and associated wetland; the placement of those residential activities that generate noise away from the established buffer and associated wetland; the treatment, detention, and dispersal of seasonal stormwater runoff from the residential community into the buffer to allow appropriate biofiltration; the routing of new untreated runoff away from the established buffer and associated wetland for appropriate treatment prior to release; the

implementation of controls to address appropriate pesticides and pest management programs to ensure protection of the established buffer and associated wetland; the establishment of a protective fence to limit adverse pet and human intrusions into the established buffer; the placement of signage along the onsite protective fence to further protect the established buffer; and following the removal of existing invasive species within the final buffer area the established buffer would be planted with a variety of desirable native trees and shrubs to restore and enhance the physical and biological functions of the established buffer. The establishment and restoration of the onsite wetland buffer would also provide a corridor to other aquatic habitats located to the south of the project site – along the Mission Creek Corridor.

BUFFER ESTABLISHMENT AND RESTORATION PROGRAM

Site planning for the Springwood Garden Residential Community has focused on the mandated hierarchy of environmentally critical areas impact avoidance and reduction through a process of **1) avoidance, 2) minimization, and 3) compensation**. As presently defined, the proposed site development action would avoid both direct and indirect adverse impacts to the identified onsite wetlands and the further offsite Mission Creek Corridor. This avoidance would ensure that there would be **no net loss** of offsite wetland and associated stream corridor functions and values as a part of this proposed residential development action.

In addition to avoiding potential project related adverse impacts to the identified offsite wetland and further offsite stream corridor, the proposed site development action would achieve the establishment, restoration, and enhancement of protective buffer within the southwestern corner of this residential community to further protect an offsite wetland. A protective buffer would be established at **not less than** 135 feet in width consistent with the provisions of the City of Olympia Chapter 18.32 – Critical Areas.

IMPACT AVOIDANCE AND MINIMIZATION

The overall project is designed to create a new, affordable workforce, residential community which is consistent with the developing residential needs of the neighborhood and the City of Olympia. The development of this new affordable residential community would avoid any adverse encroachments into the identified offsite wetland and associated further offsite Mission Creek Corridor consistent with the provisions of City of Olympia Chapter 18.32 – Critical Areas, while also ensuring that a viable protective buffer continues to protect the physical and biological functions and values of the retained offsite wetland area.

In addition, the overall site configuration and accompanying project essentials are designed to help address a significant shortage of affordable, workforce, residential housing opportunities within the local community, the City of Olympia, and the Thurston County/Southern Puget Sound Region. Through the implementation of a series of

measures to minimize the impacts of different land uses on retained wetlands the protective buffers would be established at a width **not less than** 135 feet in width. This buffer establishment would accommodate the new affordable housing units, while also ensuring that overall site development meets the safety, social, and recreational aspirations of this residential community.

MITIGATION SEQUENCING

1. *Avoiding the impact altogether by not taking a certain action or parts of an action;*

Discussion: The proposed project focuses on the development of an affordable residential community that is harmonious with the changing character of the neighborhood and consistent with the City of Olympia *Comprehensive Plan*, local zoning, the provisions of City of Olympia Chapter 18.32 – Critical Areas, and the City of Olympia stormwater and public roadway provisions. The development of this new affordable residential community would avoid potential adverse impacts to identified offsite wetlands and a stream corridor while also establishing a protective onsite wetland buffer consistent with the provisions of City of Olympia Chapter 18.32 – Critical Areas.

2. *Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;*

Discussion: As noted above, the development of the proposed affordable residential community would avoid potential adverse impacts on the identified offsite wetland and further offsite stream corridor. Site development would also minimize such potential adverse impacts through the implementation of a series of defined impact minimization measures consistent with the provisions of the City of Olympia Chapter 18.32 – Critical Areas.

3. *Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;*

Discussion: As noted above, the development of the proposed affordable residential community would avoid potential adverse impacts on the identified offsite wetlands and stream corridor areas. Site development would also minimize such potential adverse impacts through the implementation of a series of defined impact minimization measures consistent with the provisions of City of Olympia Chapter 18.32 – Critical Areas. Through the implementation of these minimization measures the rectification of potential impacts would not be required.

However, to address the reduction of the standard buffer width of the offsite wetland from 180 feet to not less than 135 feet the area of the established onsite buffer would be restored through the removal of presently invasive species and the planting of a variety of desirable plant species common to the local area and selected to increase available wildlife habitats and further protect local water quality.

4. Reducing or eliminating the impact over time by preservation and maintenance operations;

Discussion: As noted above, the development of the proposed affordable residential community would avoid potential adverse impacts on the identified offsite wetland and stream corridor areas. Site development would also minimize such potential adverse impacts through the implementation of a series of defined impact minimization measures consistent with the provisions of City of Olympia Chapter 18.32 – Critical Areas. Through the implementation of these minimization measures potential impacts would be eliminated or reduced over time.

5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and

Discussion: As noted above, the development of the proposed affordable residential community would avoid potential adverse impacts on the identified offsite wetland and stream corridor areas. In addition, to address the reduction of the standard buffer width of the offsite wetland from 180 feet to **not less than** 135 feet the area of the established onsite buffer would be restored through the removal of presently invasive species and the planting of a variety of desirable plant species common to the local area and selected to increase available wildlife habitats and further protect local water quality (see *Buffer Establishment and Restoration Program*).

6. Monitoring the impact and the compensation project and taking appropriate corrective measures.

Discussion: As outlined below, a *Buffer Establishment and Restoration Program* would be implemented to ensure that the reduction of the standard buffer to not less than 135 feet would not adversely impact offsite wetland and stream corridor areas while also restoring the physical and biological functions of the retained onsite buffer area. To ensure the success of this program a five-year monitoring and maintenance program would be undertaken following the successful implementation of the program.

MINIMIZATION MEASURES TO BE IMPLEMENTED

A variety of minimization measures common to residential communities would be implemented as a part of the overall development.

1. The development of this affordable residential community would utilize directional and restrictive lighting where applicable to minimize the potential adverse effects of residential and roadway lighting on the established wetland buffer.

Where applicable, elevated directional lighting would be shielded and directed towards roadway and residential safety street areas to ensure and focus the lighting on the intended areas and ensure that such lighting does not encroach into the established wetlands and buffers. Low walkway lighting would also be directed downward to ensure safety and minimize light encroachment into the established wetlands and buffers. The encroachment of lighting from vehicles (head lights) would also be minimized by shielding of parking areas and the location of parking areas such that the lighting is not directed towards the established wetlands and buffers. One primary factor in management of residential and roadway lighting is the selected location of the stormwater management pond adjacent to the established buffer to further screen residential and roadway lighting.

2. The development of this residential community would utilize noise controls and reductions to minimize the potential adverse effects of this residential community on the established wetlands and buffers. Those activities associated with the residential community that have the potential to produce the greatest amount of noise (such as play areas, parking, and community areas) would be located away from the established buffer to the greatest extent possible and then further shielded by the placement of the stormwater management pond closest to the outer boundaries of the buffers.
3. The development of this residential community would utilize best management practices to ensure protection against the potential of toxic runoff to enter the established buffer. Such controls would be associated with the collection, redirection, and appropriate treatment (such as bioswale and oil/water separators) of surface water runoff from those areas that exhibit a potential to produce toxic runoff (vehicle driveways, vehicle parking areas, waste collection areas, community areas). These controls would ensure that no untreated stormwater runoff would enter the established buffer or offsite wetland/stream areas. Following initial site development, this residential community would adopt an integrated pest management program and pesticide/herbicide applications program to further reduce the potential for toxic runoff entering the established buffer and offsite wetland/stream habitats.
4. During and following site development of this residential community a stormwater management program would be adopted and implemented to ensure the appropriate infiltration, treatment, detention, or dispersal of surface water runoff from new impervious surfaces. Where applicable, clean surface water runoff from non-pollution generating surfaces (roof tops, lawns, landscaping) would be directed towards the outer boundaries of the established buffer to provide

additional biofiltration and supportive hydrology for the established offsite wetland and stream corridor.

5. During and following site development of this residential community the established onsite buffer would be protected from adverse human and pet encroachments. Protective measures would include the establishment of a split-rail fence (or other fencing approved by the City of Olympia) along the onsite outer boundary of the established buffer (however, the adjacent storm pond facility would also be fenced as required by the City of Olympia). Where applicable, this fencing would also be posted with standard City of Olympia wetland buffer signs at an approximate 50-foot interval to provide notice to community residents.
6. During and immediately following site development of this residential community a fugitive dust protection prevention would be implemented. This program would undertake best management practices as an initial step in site development (initial site clearing and grading) and continue these practices through the completion of initial site development finalization.
7. The plant community within the area to be established as wetland buffer in the southwestern corner of the project site has been managed as residential lawn and yard for several decades. As such, a *Buffer Establishment and Restoration Program* would be implemented as a part of initial site development. This program would remove existing invasive species and then planted with a variety of desirable plant species common to the local area and selected to enhance wildlife habitats and local water quality protections.

BUFFER ESTABLISHMENT AND RESTORATION PROGRAM

Buffer Establishment and Restoration Program would be implemented to ensure that the reduction of the buffer associated with the offsite wetland to the south of the southwestern corner of the project site from a standard width of 180 feet to not less than 135 feet would not adversely impact offsite wetland and stream corridor areas while also restoring the physical and biological functions of the retained onsite buffer area. To ensure the success of this program a five-year monitoring and maintenance program would be undertaken following the successful implementation of the program. Program elements include: (Appendix D)

1. The initial, clear identification of the buffer area to be established and restored.
2. The removal of existing garbage, debris, old fencing, and invasive shrubs from within the buffer establishment area and within the area adjacent to the storm pond which would also be restored as a part of this program.

3. The restoration and enhancement of the onsite established buffer through the planting of a variety of desirable native trees and shrubs common to the local area and selected to provide enhanced biological and physical buffer functions. Restoration and enhancement actions would also incorporate the areas associated with the adjacent storm pond to increase the overall effectiveness of the *Buffer Establishment and Restoration Program*.
4. The installation of the desirable native plants within the established onsite buffer and adjacent storm pond areas would utilize “pit-planting” techniques and include the placement of a two (2) to three (3) inches by two (2)-foot diameter ring of composted mulch (*Cascade Compost*) placed around each plant to aid in moisture retention and to suppress weed growth (*Mulch should meet the criteria in the WDOT 2020 standard specifications manual M41-10*).
5. A minimum of four (4) monitoring plots would be created within the onsite established onsite buffer. Each monitoring plot would be posted and be defined as a 15-foot radius circle around the numbered post. All installed plants within each plot would be documented for use during the accompanying monitoring program and to define the performance criteria. Each monitoring plot would also be photo documented at establishment.
6. The placement of a split-rail fence (or other City approved fencing) and City of Olympia Buffer Boundary Signs along the outer boundary of the established buffer area to ensure no adverse encroachments.
7. All onsite actions would be completed at the oversight of the project biologist or landscape architect.
8. Following the completion of the planting of the protective buffer area, an *Implementation Report* would be prepared and submitted to the City of Olympia. The *Implementation Report* would include a description of who completed the onsite compensatory actions, a description of the scope of work completed, a description of work specifications, and a detailed timeline of completed actions. The *Implementation Report* would also include a project evaluation prepared by the project biologist or landscape architect.
9. Following the acceptance of the *Implementation Report* by the City of Olympia, a *Five-Year Monitoring and Performance Maintenance Program* would be undertaken to ensure the overall success and accomplishment of the *Buffer Establishment and Restoration Program*. Actions would include annual plant community assessments, removal of invasive species, temporary irrigation, project contingencies if required, and annual reporting to the City of Olympia.

GOAL OF THE BUFFER ESTABLISHMENT AND RESTORATION PROGRAM

The **GOAL** of the *Buffer Establishment and Restoration Program* is to ensure that the proposed residential community development does not adversely impact the physical or biological functions and values of the offsite wetland or further offsite stream corridor.

Objective A. The restored buffer area would exhibit a scrub/shrub and sapling tree vegetation class within five years following initial planting.

Performance Criterion #A1: 90% of the trees and shrubs initially planted within the restored onsite buffer would exhibit survival through the end of the first growing season following initial planting.

Performance Criterion #A2: 80% of the trees and shrubs initially planted within the restored onsite buffer would exhibit survival through the end of the second growing season following initial planting.

Performance Criterion #A3: Within the restored onsite buffer, the scrub/shrub and sapling vegetation class would exhibit the following minimum aerial coverage during the fall monitoring periods for five-years following initial planting. For purposes of the aerial coverage determination the scrub/shrub and sapling vegetation class would include both planted and desirable volunteer species.

MONITORING YEAR	MINIMUM AERIAL COVERAGE
End of monitoring year one	5%
End of monitoring year two	10%
End of monitoring year three	15%
End of monitoring year four	25%
End of monitoring year five	35%

Performance Criterion #A4: The restored onsite buffer would contain a minimum of five (5) species of native shrubs and trees (combined count) at the end of the five-year monitoring program.

Performance Criterion #A5: Invasive species within the restored onsite buffer would **not** exceed 10% aerial coverage at the end of the first, second, and third growing seasons following initial planting. Invasive species include reed canarygrass, Canadian thistle, Himalayan blackberry, Scots broom, and other species listed by the WDOE as invasive.

SELECTED RESTORATION PLANT SPECIES

The plants selected for placement within the restored onsite buffer and the associated edge of the stormwater pond would be obtained as nursery stock. These selected species are native and commonly occur in the local area. The plant species prescribed are also selected to increase plant diversity, match present offsite communities, increase wildlife habitats, and enhance the aquatic environment. Many of the selected species can be somewhat sensitive to direct sunlight upon initial removal from the nursery and installation within the buffer areas. Special care would be undertaken by the planting contractor during installation to utilize existing shading and to ensure that plants are handled and installed with some care. Adequate irrigation would also be provided at the time of installation.

NUMBER	COMMON NAME (ID) - SCIENTIFIC NAME	SIZE	SPACING
23	Western crabapple (PYF) - <i>Pyrus fusca</i>	2 gallon	10-12 feet
13	Western hawthorne (CRD) - <i>Crataegus douglasii</i>	2 gallon	10-12 feet
13	Douglas fir (PSM) - <i>Pseudotsuga menziesii</i>	2 gallon	10-12 feet
13	Sitka spruce (PIS) - <i>Picea sitchensis</i>	2 gallon	10-12 feet
13	Western red cedar (THP) - <i>Thuja plicata</i>	2 gallon	10-12 feet
75	TOTAL TREES		
12	Vine maple (ACC) - <i>Acer circinatum</i>	1 gallon	5-6 feet
12	Hazelnut (COC) - <i>Corylus cornuta</i>	1 gallon	5-6 feet
12	Tall Oregon grape (BEA) - <i>Berberis aquifolium</i>	1 gallon	5-6 feet
12	Oregon grape (BEN) - <i>Berberis nervosa</i>	1 gallon	5-6 feet
84	Red osier dogwood (COS) - <i>Cornus stolonifera</i>	1 gallon	5-6 feet
12	Red flowering current (RIS) - <i>Ribes sanguineum</i>	1 gallon	5-6 feet
12	Oceanspray (HOD) - <i>Holodiscus discolor</i>	1 gallon	5-6 feet
16	Black twinberry (LOI) - <i>Lonicera involucrata</i>	1 gallon	5-6 feet
13	Pacific ninebark (PHC) - <i>Physocarpus capitatus</i>	1 gallon	5-6 feet
38	Nootka rose (RON) - <i>Rosa nutkana</i>	1 gallon	5-6 feet
12	Sitka willow (SAS) - <i>Salix sitchensis</i>	1 gallon	5-6 feet
12	Snowberry (SYA) - <i>Symphoricarpus albus</i>	1 gallon	5-6 feet
247	TOTAL SHRUBS		

IMPLEMENTATION INSPECTION

Essential to the success of the *Buffer Establishment and Restoration Program* is the accurate inspection of onsite activities immediately prior to and during the initial invasive control and planting. These activities include pre-implementation site inspection, onsite inspection and technical direction during invasive species removal and planting activities, and post-planting site inspection and evaluation. The project biologist or

landscape architect would complete onsite inspections, verify, and approve the following project tasks (at a minimum):

1. Marking of work areas and access corridors.
2. Marking of desirable plants to be retained.
3. Removal of invasive species and existing garbage.
4. Nursery stock acceptance.
5. Modification of plant species and sizes if required.
6. Installation of the irrigation system.
7. Installation of buffer boundary fencing and signs.

The pre-implementation site inspection allows the project team and the project biologist or landscape architect to evaluate and, if necessary, adjust the onsite implementation steps. These steps include analysis of project site elevation, project sequencing and timing, final grade analysis, unforeseen required minor modifications to the original establishment plan, and the establishment of environmental protections (silt fences, etc.) required during implementation. Onsite technical inspection during implementation and planting activities would be conducted by the project biologist or landscape architect. The project biologist would perform implementation oversight and address minor unforeseen implementation difficulties to assure that the goal of the restoration program is met.

The project biologist or landscape architect would inspect sizes of native plants selected and noted within the final planting plan are utilized during implementation. If selected native species become unavailable, the project biologist would approve, based on County standards and consultation, substitute plant species to assure that the goal of the restoration program is met.

Following the completion of onsite planting activities an *Implementation Report* plan would be prepared and submitted to the City of Olympia. The *Implementation Report* would include a description of who completed the onsite restoration actions, a description of the scope of work completed, a description of work specifications, photo documentation of the actions taken, initial plant documentation at each established monitoring plot, and a detailed timeline of completed actions. The *Implementation Report* would also include a project evaluation prepared by the project biologist or landscape architect.

IMPLEMENTATION SCHEDULE

PROJECT TASK	TASK SCHEDULE
Onsite pre-implementation meeting	Completed by August 2, 202x
Placement of protective fencing. Final marking and identification of work area and access corridors.	Completed by August 6, 202x
Removal of invasive plants and debris.	Completed by September 20, 202x
Planting of buffer.	Completed by November 30, 202x

<i>Implementation Report to City.</i>	Completed by December 15, 202x
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202x represents the year of project approval and implementation

PROJECT MONITORING

Following the successful implementation of the *Buffer Establishment and Restoration Program* and the acceptance of the *Implementation Report* by the City of Olympia a **five-year** monitoring and evaluation program would be undertaken. The purpose of this monitoring is to ensure the success and accomplishment of the restoration efforts, as measured by an established set of performance criteria.

STANDARDS OF SUCCESS

A minimum of four (4) 15-foot radius sample plots will be established within the established and restored buffer. The evaluation of the success of the *Buffer Establishment and Restoration Program* would be based on the defined performance criteria. The defined performance criteria would be applied at the times of yearly monitoring.

1. As a part of monitoring years one and two, the project biologist would count the number of live plants which were planted within the identified monitoring plots. Plants would be identified to species and observations of general plant condition are to be recorded.
2. During each monitoring period and at each identified sample plot the project biologist would determine percent coverage of vegetation for the scrub/shrub and sapling tree species. The project biologist would also document species richness within each sample plot.
3. At identified sample plots the project biologist would count the number - and tag for removal - undesirable invasive species and estimate the aerial coverage (as if the observer were looking straight down from above) of these invasive species.
4. As a part of monitoring years one and two the project biologist would count the number of desirable "volunteer" plants and estimate the aerial coverage of these plants.
5. The project biologist would take photographs that show the restoration area. During the monitoring period photos will be taken in the same direction and at the same location to provide a series of photos. These photos would show plant growth, plant species, and plant coverage.
6. Upon the completion of each annual monitoring period as noted below the project biologist would prepare a report defining methods, observations, and results along

with the date the observations were completed. Each report would be provided to the City of Olympia.

MONITORING YEAR	PLANT COMMUNITY MONITORING	MONITORING REPORT
YEAR-1	On or about April 15, 202x+1	
	On or about Sept. 15, 202x+1	Report due Oct. 7, 202x+1
YEAR-2	On or about April 15, 202x+2	
	On or about Sept. 15, 202x+2	Report due Oct. 7, 202x+2
YEAR-3	On or about Sept. 15, 202x+3	Report due Oct. 7, 202x+3
YEAR-4	On or about Sept. 15, 202x+4	Report due Oct. 7, 202x+4
YEAR-5	On or about Sept. 15, 202x+5	Report due Oct. 7, 202x+5

* based on a fall 202x implementation

VEGETATION MAINTENANCE PLAN

Maintenance of the *Buffer Establishment and Restoration Program* plant community may be required. Such maintenance would be identified during the monitoring period and would be undertaken at the direction of the project biologist or landscape architect. The overall objective is to establish undisturbed plant communities that do not require maintenance. Activities may include, but are not limited to, the removal of invasive non-native vegetation and the irrigation of selected areas. Established maintenance activities include the removal of any trash within the restored buffer and adjacent stormwater pond area.

REMOVAL OF INVASIVE NON-NATIVE VEGETATION

As a contingency, should the removal of invasive non-native species become necessary, the project proponent would contact the City of Olympia to establish and define specific actions to be taken. Resultant contingency plan activities would be implemented when the ongoing vegetation monitoring program indicates that invasive species are becoming dominant in the onsite plant community (invasive species greater than 10% aerial coverage **or any** presence of knotweed).

The following invasive vegetation removal program would be implemented to ensure the establishment of desirable plant communities. At the direction of the project biologist, additional removal actions (if required) would also be undertaken to ensure the establishment of desirable plant communities. The project proponent would not be responsible for replacement of plants that may be removed or damaged by others.

MONITORING YEAR	FIRST REMOVAL ACTION	SECOND REMOVAL ACTION	THIRD REMOVAL ACTION
YEAR-1	On or about April 15, 202x+1	on or about June 1, 202x1	on or about August 30, 202x+1
YEAR-2	On or about April 15, 202x+2	on or about June 1, 202x+2	on or about August 30, 202x+2
YEAR-3	On or about April 15, 202x+3	on or about June 1, 202x+3	on or about August 30, 202x+3

* based on a fall 202x implementation

CONTINGENCY PLAN

As a contingency, should the proposed *Buffer Establishment and Restoration Program* fail to meet the performance criteria, the project proponent would undertake required remedial actions. Where plant survival is the failing component, the project proponent would replant and ensure the success of this second planting which would be held to the same standard of success as measured by performance criteria and monitoring processes. Where non-native, invasive shrubs exceed 10% aerial coverage the project proponent would undertake removal actions. Such removal actions would be completed using hand tools or pulling the plants by hand to remove the invasive vegetation without disrupting the soil profile. All cut or pulled vegetation would be removed from the restoration area and disposed of in an approved location. Herbicides will **only** be used following approval by the City of Olympia and WDOE. If used, all herbicide applications shall be completed by a licensed professional.

Should additional remedial actions be required the project proponent would meet with the City of Olympia to establish and define actions to be taken to meet the desired goal of this restoration effort.

TEMPORARY IRRIGATION

The project proponent would ensure that a minimum of **one (1) inch of water is supplied each week** to the restoration area between May 1 and October 15 for at least the first two years following initial planting. The calculated amount of required water would include both natural rainfall and temporary irrigation. The need for additional years of irrigation will be determined based on site conditions and overall plant survival. The amount of water supplied to the restoration area would be increased if onsite monitoring defines such a need.

Irrigation would be provided via a temporary system placed on the ground surface within the buffer area or with optional hand watering. The system would allow for a minimum of 10% overlap of coverage between sprinklers and the sprinklers will be a minimum of four (4) feet above ground. The project team would employ a landscape contractor to

install, operate, and maintain the irrigation system. All actions would also be monitored onsite by the project biologist. When deemed appropriate and with authorization by the City of Olympia, the temporary irrigation system would be removed from the restoration area and disposed of at an approved facility.

PLANTING NOTES

All plant materials utilized within the restored area would be native to the Puget Sound Region. The onsite biologist would inspect plant materials to assure the appropriate plant schedule and plant characteristics are met. The project proponent would warrant that all plants would remain alive and healthy for a period of one year following completion of planting activities. The project proponent would replace all dead and unhealthy plants with plants of the same specifications.

FINANCIAL GUARANTEE

IF REQUIRED the project proponent would provide the City of Olympia with a financial guarantee defined in two parts. Part One (Implementation Guarantee) would be associated with the initial onsite elements of the buffer program. Part Two (Performance Guarantee) would be associated with the maintenance and monitoring elements of the proposed buffer program. These guarantees would be held by the City of Olympia and be equal to 125% of the actual estimated costs for identified activities. This increased percentage would allow for adequate funds to be available as a contingency should actions be required to meet the goals of these plans. The Implementation Guarantee would be deemed to be released by the City of Olympia upon the successful completion of the initial onsite compensation elements and the acceptance by the City of Olympia. The Performance Guarantee would be deemed to be released upon meeting the established performance criteria and acceptance by the City of Olympia of the required reporting documents.

Implementation Guarantee

TASK	BUDGET
Onsite identification of buffer establishment area by surveyor.	\$ 2,200.00
Removal of invasive vegetation and disposal	\$ 1,500.00
75 trees (2 gallon) and installation (\$35.00/each)	\$ 2,625.00
247 shrubs (1 gallon) and installation (\$17.50/each)	\$ 4,322.50
Outer buffer boundary fence/signs and installation (\$12/linear foot)	\$ 5,000.00
Temporary irrigation system	\$ 1,400.00
Onsite biologist (18 hours at \$200/hr)	\$ 3,600.00
Production of <i>Implementation Report</i> (biologist 16 hrs at \$200/hr).	\$ 3,200.00
SUB-TOTAL	\$23,847.50
Required 25% contingency	\$5,961.75
IMPLEMENTATION GUARANTEE TOTAL	\$29,809.55

Performance Guarantee

TASK	BUDGET
Year-One onsite monitoring with expenses Two times for plants (8 hrs at \$200/hr) Annual report with photos (4 hrs at \$200/hr)	\$ 2,500.00
Year-Two onsite monitoring with expenses Two times for plants (8 hrs at \$200/hr) Annual report with photos (4 hrs at \$200/hr)	\$ 2,500.00
Year-Three onsite monitoring with expenses One time for plants (5 hrs at \$200/hr) Annual report with photos (4 hrs at \$200/hr)	\$ 2,000.00
Year-Four onsite monitoring with expenses One time for plants (5 hrs at \$200/hr) Annual report with photos (4 hrs at \$200/hr)	\$ 2,000.00
Year-Five onsite monitoring with expenses One time for plants (5 hrs at \$200/hr) Annual report with photos (4 hrs at \$200/hr)	\$ 2,000.00
Temporary Irrigation Program - One inch of water per week between May 1 st and October 15 th for years one, two, and three.	\$ 2,800.00
Invasive Vegetation Removal - Three times (early April, early June, mid-August) for years one, two, and three.	\$ 7,200.00
SUB-TOTAL	\$21,000.00
Required 25% contingency	\$5,250.00
PERFORMANCE GUARANTEE TOTAL	\$26,250.00

STANDARD OF CARE

This document has been completed by Habitat Technologies for use by **Garrette Custom Homes/Pacific Lifestyle Homes**. Prior to extensive site planning the findings documented in this document should be reviewed and verified by the City of Olympia and potentially other resource agency personnel. Habitat Technologies has provided professional services that are in accordance with the degree of care and skill generally accepted in the nature of the work accomplished. No other warranties are expressed or implied. Habitat Technologies is not responsible for design costs incurred before this document is approved by the appropriate resource and permitting agencies.

Bryan W. Peck

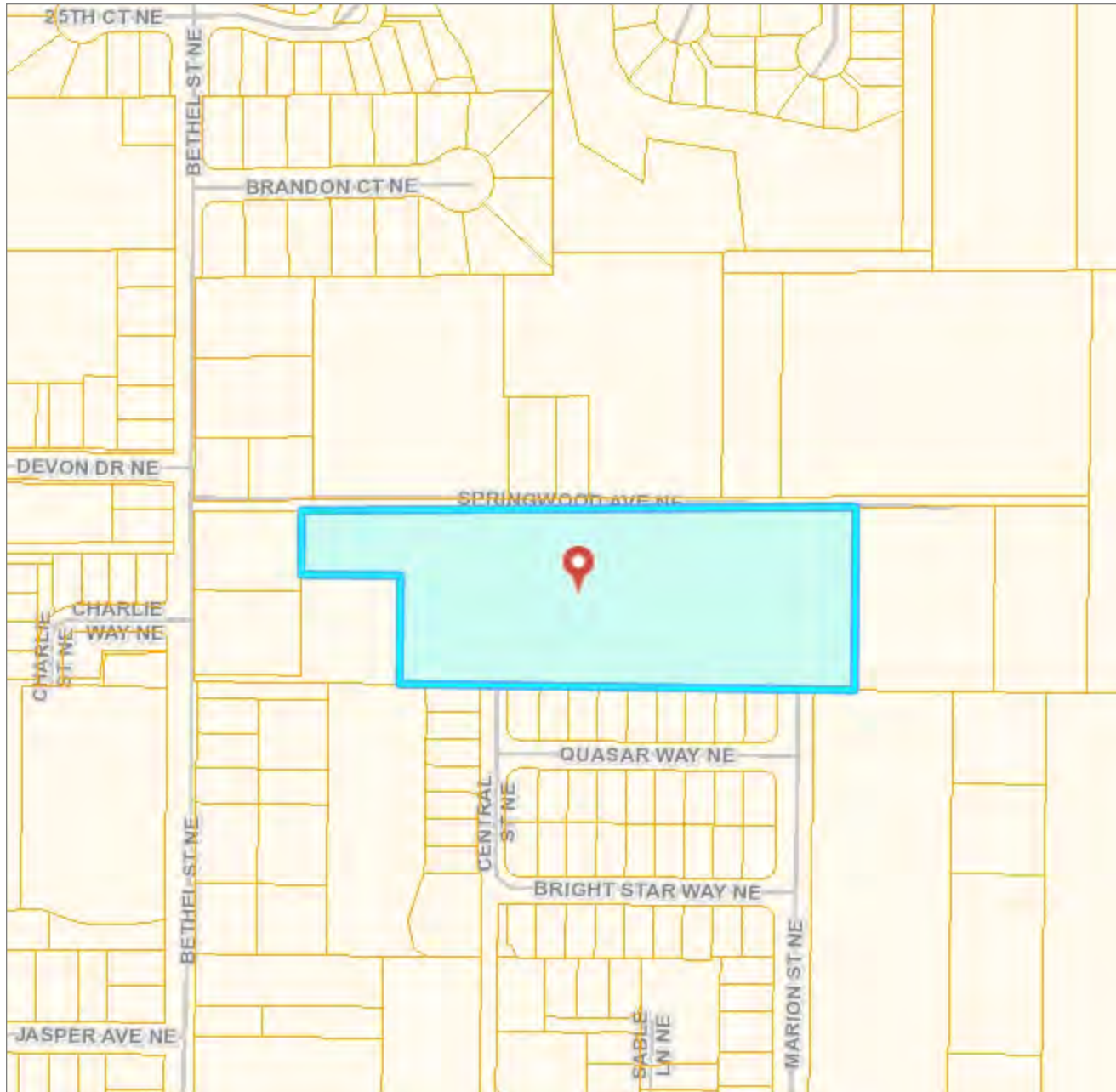
Bryan W. Peck
Senior Wetland Biologist

Thomas D. Deming

Thomas D. Deming, SPWS
Habitat Technologies

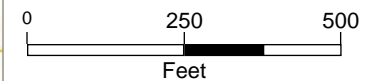
FIGURES

Figure 1 - Site Vicinity



- Legend**
- Parcel Boundaries
 - Roads - Major (Large Scale)
 - <all other values>
 - I 5 ACCESS; US 101 ACCESS; US 101 SB OFF RAMP
 - I 5; US 101
 - Roads (Large Scale)
 - Railroads
 - County Border
 - Olympia Municipal Airport
 - Water Bodies (River - Small Scale)
 - Water Bodies (Other)
 - Parks
 - Cities
 - Capital Forest
 - County Background

Scale 1: 5,369



Map Created Using GeoData Public Website

Published: 10/22/2024

Note:











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October 22, 2024

Wetlands

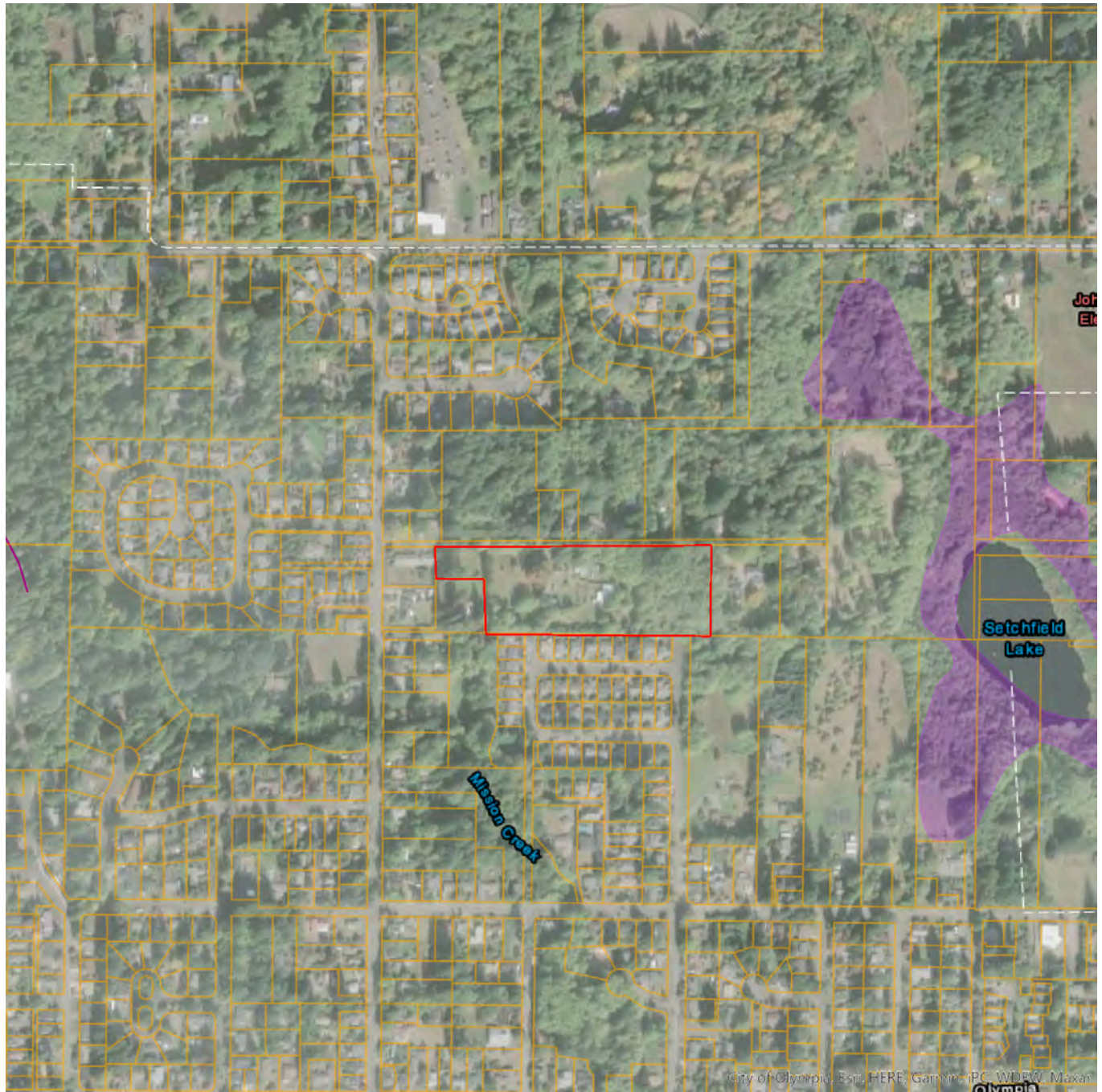
- | | | |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
| |  Freshwater Pond |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



Figure 3

Priority Habitats and Species on the Web



Report Date: 10/22/2024

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Big brown bat			Yes
Little Brown Bat			Yes
myotis spp			Yes
Yuma myotis			Yes

PHS Species/Habitats Details:

Big brown bat	
Scientific Name	<i>Eptesicus fuscus</i>
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at pshproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Little Brown Bat	
Scientific Name	<i>Myotis lucifugus</i>
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at pshproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

myotis spp	
Scientific Name	<i>Myotis yumanensis/lucifugus</i>
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at pshproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP

Yuma myotis	
Scientific Name	<i>Myotis yumanensis</i>
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release at pshproducts@dfw.wa.gov for obtaining information about masked sensitive species and habitats.
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

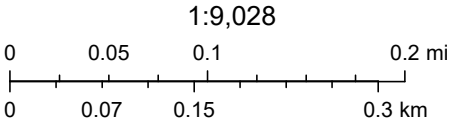
DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

Figure 4 WDFW Salmonscape Mapping



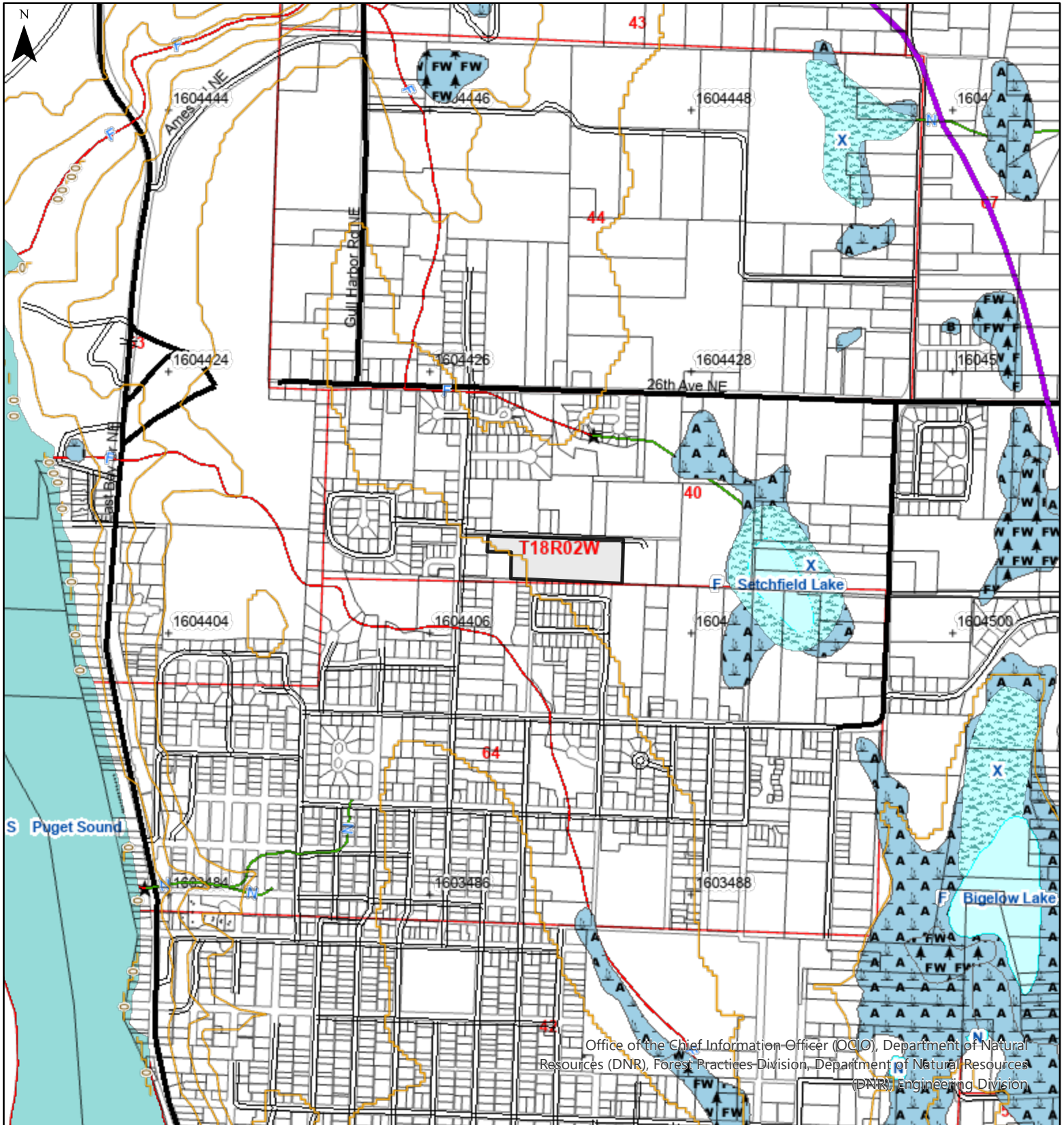
October 22, 2024

— All SalmonScape Species



City of Olympia, Esri, HERE, Garmin, iPC, USGS/NHD, Dale Gombert (WDFW), WDFW, Maxar

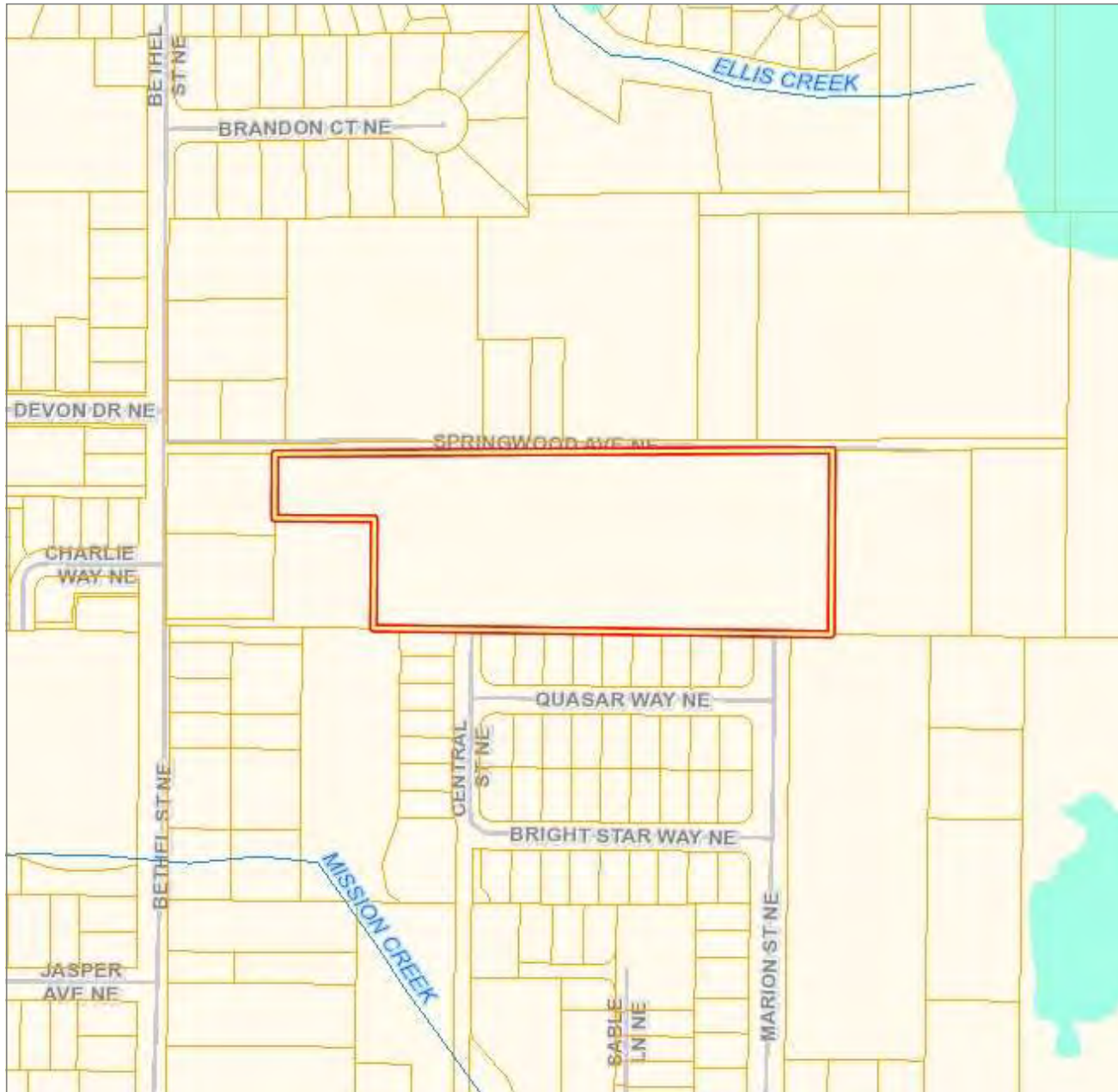
Figure 5 Forest Practices Water Type Map



Office of the Chief Information Officer (OCIO), Department of Natural Resources (DNR), Forest Practices Division, Department of Natural Resources (DNR), Engineering Division

Map Symbols	Additional Information	Legal Description
<ul style="list-style-type: none"> New Stream Proposed Water Type Stream Removal Break between water types 	<ul style="list-style-type: none"> Start and End Point of Surveyed Reach Natural Fish Barrier Manmade Barrier End of Fish or Last Fish 	<p>S40 T18.0N R02.0W, S64 T18.0N R02.0W, S52 T18.0N R02.0W, S67 T18.0N R02.0W, S53 T18.0N R02.0W, S43 T18.0N R02.0W, S44 T18.0N R02.0W, S42 T18.0N R02.0W</p>
<p>WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES</p>	<p>Extreme care was used during the compilation of this map to ensure its accuracy. However, due to changes in data and the need to rely on outside information, the Department of Natural Resources cannot accept responsibility for errors or omissions, and therefore, there are no warranties that accompany this material.</p>	<p>Approximate Scale : 1:12,000</p> <p>Date: 10/22/2024 Time: 10:32 AM</p>

Figure 6 Thurston County Mapping



Legend

— Streams	Water Bodies (Other)
Wetlands	Parks
Parcel Boundaries	Cities
Roads - Major (Large Scale)	Capital Forest
<all other values>	County Background
I 5 ACCESS; US 101 ACCESS; US 101 SB OFF RAMP	Roads - Major (Large Scale)
I 5; US 101	<all other values>
Roads (Large Scale)	I 5 ACCESS; US 101 ACCESS; US 101 SB OFF RAMP
Railroads	I 5; US 101
County Border	Roads (Large Scale)
Olympia Municipal Airport	Railroads
Water Bodies (River - Small Scale)	County Border

Scale 1: 5,342

Map Created Using GeoData Public Website
 Published: 10/23/2024

Note:

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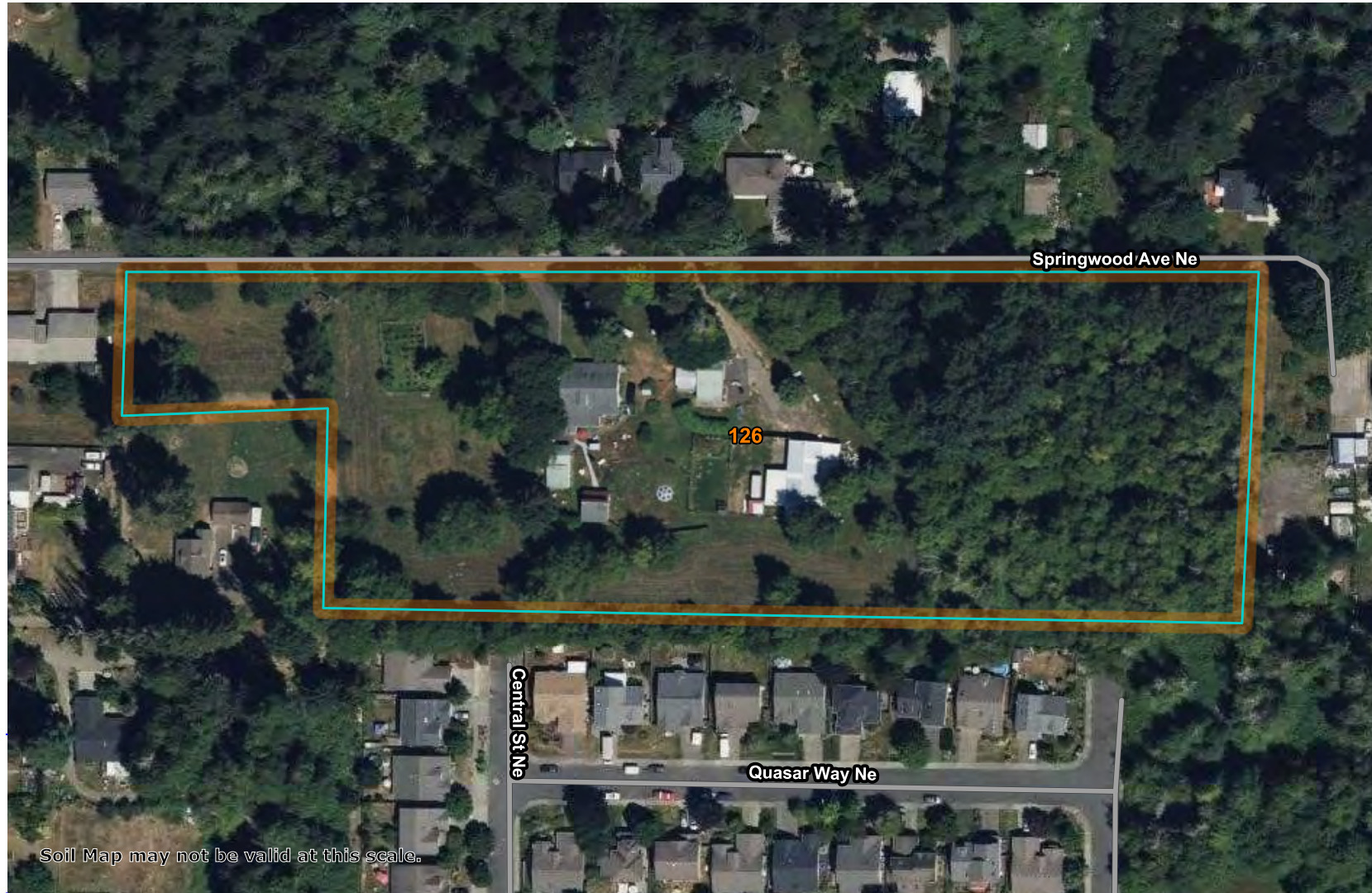
Soil Map—Thurston County Area, Washington
(Figure 7 Soils Mapping)

122° 53' 3" W

122° 52' 44" W

47° 3' 59" N

47° 3' 59" N

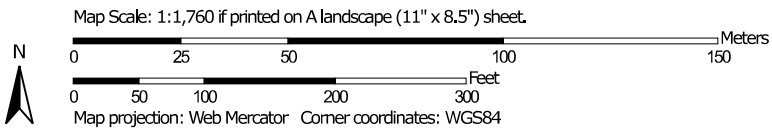


47° 3' 51" N

47° 3' 51" N

122° 53' 3" W


122° 52' 44" W



Soil Map—Thurston County Area, Washington
(Figure 7 Soils Mapping)


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils




 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Thurston County Area, Washington
Survey Area Data: Version 18, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 31, 2022—Aug 8, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
126	Yelm fine sandy loam, 0 to 3 percent slopes	6.8	100.0%
Totals for Area of Interest		6.8	100.0%

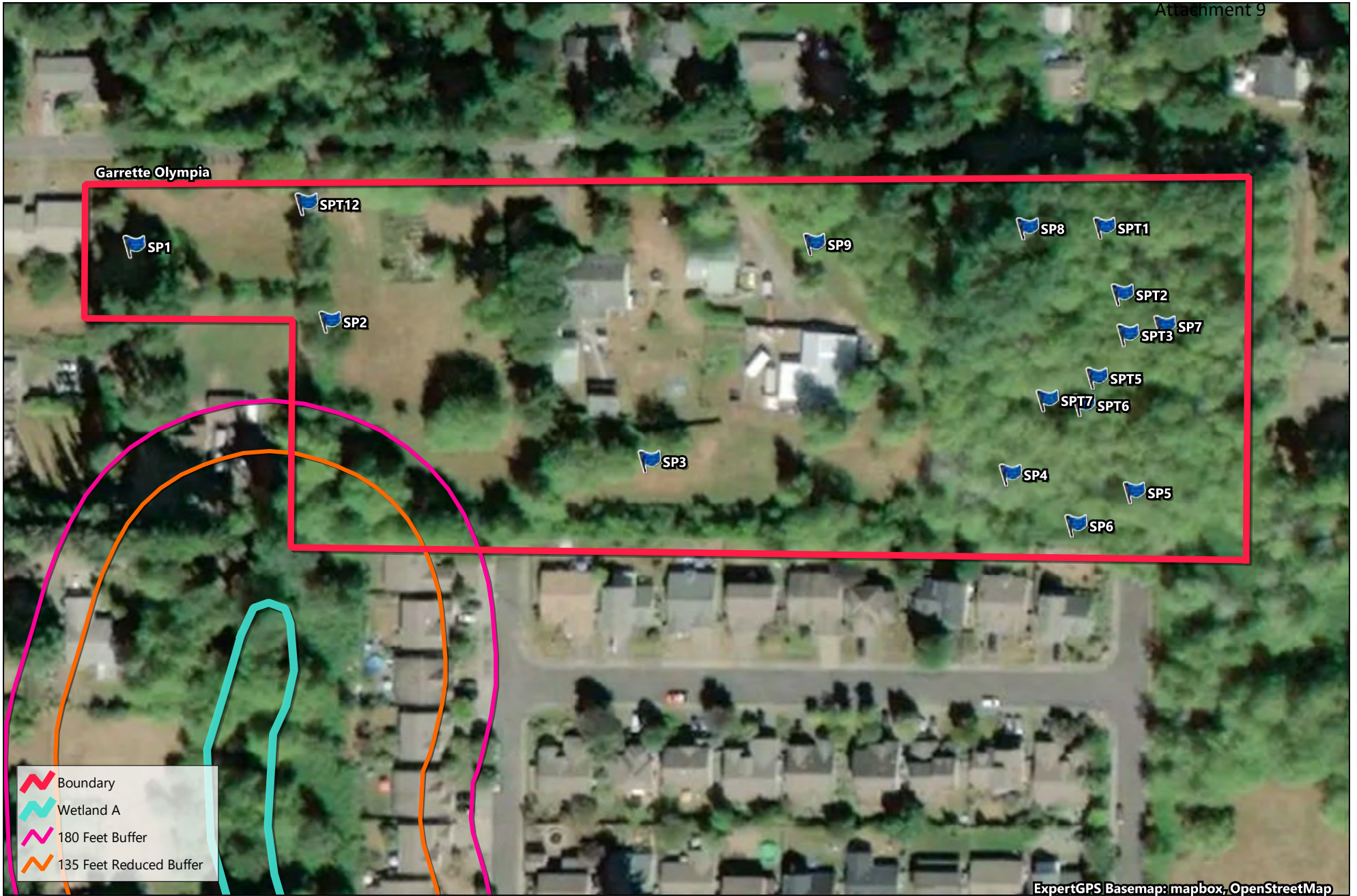


Figure 8 Site Graphic

LITERATURE AND REFERENCE LIST

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US Fish and Wildlife Service National Wetland Inventory Mapper, 2016 (for NWI wetland mapping): <http://www.fws.gov/wetlands/Data/Mapper.html>.

Washington State Department of Ecology. 1997. Washington State Wetlands Identification and Delineation Manual. Publication Number 96-94.

Washington State Department of Fish and Wildlife Priority Habitats and Species Maps 2016 <http://wdfw.wa.gov/mapping/phs/>

Washington State Department of Fish and Wildlife SalmonScape Mapping System, 2016 (for fish presence): <http://apps.wdfw.wa.gov/salmonscape/map.html>

Washington State Department of Natural Resources FPARS Mapping System, 2016 (for stream typing): <http://fortess.wa.gov/dnr/app1/fpars/viewer.htm>

APPENDIX A – Field Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP1
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06543 Long: W122.88296 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed pasturet</u>	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Acer macrophyllum</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>29</u> (A/B)	
2. <u>Prunus emarginata</u>	<u>12</u>	<u>YES</u>	<u>FACU</u>		
3. _____					
4. _____					
	<u>37</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Corylus cornuta</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. <u>Ilex aquifolium</u>	<u>20</u>	<u>YES</u>	<u>UPL</u>		
3. _____					
4. _____					
5. _____					
	<u>45</u>	= Total Cover			
Herb Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Poa spp.</u>	<u>60</u>	<u>YES</u>	<u>FAC</u>		
2. <u>Taraxacum officinale</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>		
3. <u>Hedera helix</u>	<u>30</u>	<u>YES</u>	<u>FACU</u>		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	<u>95</u>	= Total Cover			
Woody Vine Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Rubus procerus</u>	<u>12</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____					
	<u>12</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: <u>Managed pasture</u>					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP2
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06562 Long: W122.88366 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed Lawn section of the property</u>	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Betula papyrifera</u>	<u>80</u>	<u>YES</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	<u>80</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)					
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
	_____	= Total Cover			
Herb Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Ranunculus acris</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>		
2. <u>Hedera helix</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>		
3. <u>Geum macrophyllum</u>	<u>5</u>	<u>NO</u>	<u>FAC</u>		
4. <u>Poa spp.</u>	<u>70</u>	<u>YES</u>	<u>FAC</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
	<u>100</u>	= Total Cover			
Woody Vine Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Rubus procerus</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
	<u>30</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: <u>Upland managed lawn section of the property.</u>					

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-24	10YR 3/2	100					SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No prominent Field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No prominent field indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP3
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>Managed yard</u>	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Alnus rubra</u>	<u>50</u>	YES	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____	<u>50</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)					
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____	_____	_____	_____		
Herb Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Poa spp.</u>	<u>100</u>	YES	FAC		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____	<u>100</u>	= Total Cover			
Woody Vine Stratum (Plot size: <u>15ft radius</u>)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
_____	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: <u>managed yard</u>					

SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-20	10YR 4/3	100					SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No prominent Field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No prominent field indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP4
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06506 Long: W122.88053 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Forested section of property	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Alnus rubra</u>	<u>20</u>	YES	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>20</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Oemleria cerasiformis</u>	<u>20</u>	YES	FACU	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>20</u>	= Total Cover		
Herb Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Polystichum munitum</u>	<u>20</u>	YES	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Pteridium aquilium</u>	<u>20</u>	YES	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>40</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Rubus procerus</u>	<u>80</u>	YES	FAC	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
	<u>80</u>	= Total Cover		
% Bare Ground in Herb Stratum _____				
Remarks: Forested area of property				

SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2	10YR 3/2	100					SL	
3-18	10YR 4/3	100					SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No prominent Field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No prominent field indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP5
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06502 Long: W122.88008 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Forested area of property	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Prunus emarginata</u>	<u>35</u>	<u>YES</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>29</u> (A/B)	
2. <u>Alnus rubra</u>	<u>30</u>	<u>YES</u>	<u>FAC</u>		
3. _____					
4. _____					
	<u>65</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Ilex aquifolium</u>	<u>10</u>	<u>YES</u>	<u>UPL</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. _____					
3. _____					
4. _____					
5. _____					
	<u>10</u>	= Total Cover			
Herb Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Polystichum munitum</u>	<u>50</u>	<u>YES</u>	<u>FACU</u>		
2. <u>Pteridium aquilium</u>	<u>40</u>	<u>YES</u>	<u>FACU</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	<u>90</u>	= Total Cover			
Woody Vine Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Rubus procerus</u>	<u>20</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2. <u>Rubus ursinus</u>	<u>35</u>	<u>YES</u>	<u>FACU</u>		
	<u>55</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: Forested area of property					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP6
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.065493 Long: W122.88029 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Forested area of property	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Crataegus douglasii</u>	<u>100</u>	<u>YES</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Hedera helix</u>	<u>70</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Polystichum munitum</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Rubus procerus</u>	<u>10</u>	<u>NO</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. <u>Rubus ursinus</u>	<u>5</u>	<u>NO</u>	<u>FACU</u>	
_____	<u>15</u>	= Total Cover		
% Bare Ground in Herb Stratum _____ Remarks: Forested area of property				

SOIL

Sampling Point: SP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-18	10YR 4/3	100					SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No prominent Field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No prominent field indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP7
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06542 Long: W122.87998 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Forested area of property	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Alnus rubra</u>	<u>50</u>	<u>YES</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____	<u>50</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Rubus spectabilis</u>	<u>10</u>	<u>YES</u>	<u>FAC+</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____	<u>10</u>	= Total Cover		
Herb Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Polystichum munitum</u>	<u>50</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Pteridium aquilium</u>	<u>40</u>	<u>YES</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____	<u>90</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Rubus ursinus</u>	<u>70</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
_____	<u>70</u>	= Total Cover		
% Bare Ground in Herb Stratum _____ Remarks: Forested area of property				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP8
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06566 Long: W122.88047 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Forested area of property	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Populus trichocarpa</u>	<u>50</u>	<u>YES</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Crataegus douglasii</u>	<u>15</u>	<u>YES</u>	<u>FAC</u>	
3. _____				
4. _____				
	<u>65</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Oemleria cerasiformis</u>	<u>25</u>	<u>YES</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Corylus cornuta</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
	<u>45</u>	= Total Cover		
Herb Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Polystichum munitum</u>	<u>40</u>	<u>YES</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Phalaris arundinacea</u>	<u>10</u>	<u>YES</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>50</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>15ft radius</u>)				
1. <u>Rubus procerus</u>	<u>10</u>	<u>YES</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. <u>Rubus ursinus</u>	<u>20</u>	<u>YES</u>	<u>FACU</u>	
	<u>30</u>	= Total Cover		
% Bare Ground in Herb Stratum _____ Remarks: Forested area of property				

SOIL

Sampling Point: SP8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-10	10YR 3/3	100					LS	
11-18	10YR 4/2	90	10YR 4/6	10	C	M	SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Prominent Field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No prominent field indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 16 OCT 2024
 Applicant/Owner: _____ State: WA Sampling Point: SP9
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06562 Long: W122.88123 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Edge of the forested area of property	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Alnus rubra</u>	<u>50</u>	YES	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____	<u>50</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)					
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____	_____	_____	_____		
Herb Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Poa spp.</u>	<u>50</u>	YES	FAC		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____	<u>50</u>	= Total Cover			
Woody Vine Stratum (Plot size: <u>15ft radius</u>)					
1. <u>Rubus procera</u>	<u>50</u>	YES	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
_____	<u>50</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: Edge of forested area of property					

SOIL

Sampling Point: SP9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-18	10YR 3/3	100					LS	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)	
	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No prominent Field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No prominent field indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 4 JUNE 2025
 Applicant/Owner: _____ State: WA Sampling Point: SPT1
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: mixed upland forest	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: 15ft radius)					
1. <u>Alnus rubra</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)	
2. <u>Acer macrophyllum</u>	<u>70</u>	<u>yes</u>	<u>FACU</u>		
3. <u>Pseudotsuga menziesii</u>	<u><10</u>	<u>no</u>	<u>FACU</u>		
4. _____					
	<u>100</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15ft radius)					
1. <u>Oemleria cerasiformis</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. <u>Rubus ursinus</u>	<u>10</u>	<u>no</u>	<u>FACU</u>		
3. <u>Rubus armeniacus</u>	<u><10</u>	<u>no</u>	<u>FAC</u>		
4. <u>Rubus spectabilis</u>	<u><5</u>	<u>no</u>	<u>FAC</u>		
5. _____					
	<u><50</u>	= Total Cover			
Herb Stratum (Plot size: 15ft radius)					
1. <u>Polystichum munitum</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>		
2. <u>Pteridium aquilium</u>	<u><10</u>	<u>no</u>	<u>FACU</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	<u><60</u>	= Total Cover			
Woody Vine Stratum (Plot size: 15ft radius)					
1. _____					
2. _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: mixed upland forest					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 4 JUNE 2025
 Applicant/Owner: _____ State: WA Sampling Point: SPT2
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: small depression formed within turn of internal roadway. depression approxiamtely 400 square feet in total size within early growing season shallow ponding.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15ft radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>15ft radius</u>)				
1. <u>Poa spp.</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Phalaris arundinace</u>	<u>10</u>	<u>no</u>	<u>FACW</u>	
3. <u>Ranunculus acris</u>	<u>5</u>	<u>no</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				<u>35</u> = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>15ft radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				<u>0</u> = Total Cover
<u>% Bare Ground in Herb Stratum</u> <u>65%</u>				
Remarks: small depression in internal road with grasses, herbs, and bare ground				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: SPT2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-4	10YR 3/3	100					L	loose loam
4-18	10YR 5/1	50					L	mixed with 50% 10YR/2 loam
18-24	10YR 5/1	90	10YR 4/6	10	D	M	L	loam
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
Restrictive Layer (if present): Type: _____ Depth (inches): _____						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: prominent field indicators of hydric soils. soils mixed as a part of internal roadway utilization and management .								

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)	
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)	
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: prominent field indicators of wetland hydrology. small depression formed within internal roadway. early growing season shallow ponding		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 4 JUNE 2025
 Applicant/Owner: _____ State: WA Sampling Point: SPT3
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: center of internal road through mixed upland forest. just to the south of SPT2	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				_____ = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15ft radius</u>)				
1. <u>Oemleria cerasiformis</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
2. <u>Rubus ursinus</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
3. <u>Rubus armeniacus</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
4. <u>Rubus spectabilis</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
				_____ = Total Cover
<u>Herb Stratum</u> (Plot size: <u>15ft radius</u>)				
1. <u>Polystichum munitum</u>	<u>10</u>	<u>no</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
3. <u>Ranunculus acris</u>	<u>25</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Poa spp.</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
5. <u>Agrostis tenuis</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
6. <u>Plantago major</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
7. <u>Hypochaeris lanatum</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				_____ = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>15ft radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				_____ = Total Cover
<u>% Bare Ground in Herb Stratum</u> _____				
Remarks: mixed grasses, herbs, and ferns along internal roadway				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 4 JUNE 2025
 Applicant/Owner: _____ State: WA Sampling Point: SPT5
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: mixed upland forest	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: 15ft radius)					
1. <u>Alnus rubra</u>	<u>70</u>	<u>yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)	
2. <u>Acer macrophyllum</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>		
3. <u>Prunus emarginata</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>		
4. _____	_____	_____	_____		
<u>90</u> = Total Cover					
Sapling/Shrub Stratum (Plot size: 15ft radius)					
1. <u>Oemleria cerasiformis</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. <u>Crataegus monogyna</u>	<u><10</u>	<u>no</u>	<u>FACU</u>		
3. <u>Rubus armeniacus</u>	<u>35</u>	<u>yes</u>	<u>FAC</u>		
4. <u>Rubus spectabilis</u>	<u><5</u>	<u>no</u>	<u>FAC</u>		
5. <u>Rubus laciniatus</u>	<u>30</u>	<u>yes</u>	<u>FACU</u>		
<u>100</u> = Total Cover					
Herb Stratum (Plot size: 15ft radius)					
1. <u>Polystichum munitum</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>		
2. <u>Pteridium aquilium</u>	<u><10</u>	<u>no</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u><35</u> = Total Cover					
Woody Vine Stratum (Plot size: 15ft radius)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____	_____	_____	_____		
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks: mixed upland forest					

SOIL

Sampling Point: SPT5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-11	10YR 3/3	100					SL	
11-24	10YR 3/4	100					L loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	---

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks: No prominent Field indicators of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)	
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No prominent field indicators of wetland hydrology.	

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 4 JUNE 2025
 Applicant/Owner: _____ State: WA Sampling Point: SPT6
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: center of internal road through mixed upland forest.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	_____ = Total Cover			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15ft radius</u>)				
1. <u>Oemleria cerasiformis</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
2. <u>Rubus ursinus</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
3. <u>Rubus armeniacus</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
4. <u>Rubus spectabilis</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
5. <u>Rubus laciniatus</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
	<u><25</u> = Total Cover			
<u>Herb Stratum</u> (Plot size: <u>15ft radius</u>)				
1. <u>Polystichum munitum</u>	<u><10</u>	<u>no</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
3. <u>Ranunculus acris</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Poa spp.</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
5. <u>Agrostis tenuis</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	
6. <u>Plantago major</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
7. <u>Hypochaeris lanatum</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
8. <u>Anthoxanthum odoratum</u>	<u><10</u>	<u>no</u>	<u>FAC</u>	
9. <u>Athyrium filix-femina</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
10. <u>Festuca spp.</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
11. _____	_____	_____	_____	
	<u>80</u> = Total Cover			
<u>Woody Vine Stratum</u> (Plot size: <u>15ft radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u> = Total Cover			
<u>% Bare Ground in Herb Stratum</u> _____				
Remarks: mixed grasses, herbs, and ferns along internal roadway				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 4 JUNE 2025
 Applicant/Owner: _____ State: WA Sampling Point: SPT7
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: center of internal road through mixed upland forest.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>15ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			= Total Cover	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15ft radius</u>)				
1. _____	_____	_____	_____	
2. <u>Rubus ursinus</u>	<u>10</u>	<u>no</u>	<u>FACU</u>	
3. <u>Rubus armeniacus</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
4. <u>Rubus spectabilis</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
5. <u>Rubus laciniatus</u>	<u><5</u>	<u>no</u>	<u>FACU</u>	
			= Total Cover	
<u>Herb Stratum</u> (Plot size: <u>15ft radius</u>)				
1. <u>Polystichum munitum</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
2. <u>Pteridium aquilium</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
3. <u>Ranunculus acris</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>	
4. <u>Poa spp.</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
5. <u>Agrostis tenuis</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>	
6. <u>Plantago major</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
7. <u>Hypochaeris lanatum</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	
8. <u>Anthoxanthum odoratum</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
9. <u>Athyrium filix-femina</u>	<u>trace</u>	<u>no</u>	<u>FAC</u>	
10. <u>Festuca spp.</u>	<u><5</u>	<u>no</u>	<u>FAC</u>	
11. _____	_____	_____	_____	
			= Total Cover	
<u>Woody Vine Stratum</u> (Plot size: <u>15ft radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
			= Total Cover	
<u>% Bare Ground in Herb Stratum</u> _____				
Remarks: mixed grasses, herbs, and ferns along internal roadway				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: PARCEL 09680073000 City/County: Olympia / Thurston County Sampling Date: 4 JUNE 2025
 Applicant/Owner: _____ State: WA Sampling Point: SPT12
 Investigator(s): Habitat Technologies Section, Township, Range: Section 12 Township 18 Range 02W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Rolling Slope (%): 1-2%
 Subregion (LRR): A Lat: N47.06509 Long: W122.88182 Datum: _____
 Soil Map Unit Name: Yelm fine sandy loam NWI classification: Moderately well drained

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: small patch of red alder along old, shallow field drain within managed lawn area	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: 15ft radius)					
1. <u>Alnus rubra</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)	
2. <u>Acer macrophyllum</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	<u>60</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15ft radius)					
1. <u>Oemleria cerasiformis</u>	<u>trace</u>	<u>no</u>	<u>FACU</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. <u>Rubus ursinus</u>	<u><10</u>	<u>no</u>	<u>FACU</u>		
3. <u>Rubus armeniacus</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>		
4. <u>Rubus spectabilis</u>	<u><5</u>	<u>no</u>	<u>FAC</u>		
5. <u>Rubus laciniatus</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>		
	<u><75</u>	= Total Cover			
Herb Stratum (Plot size: 15ft radius)					
1. <u>Polystichum munitum</u>	<u><5</u>	<u>no</u>	<u>FACU</u>		
2. <u>Pteridium aquilium</u>	<u><10</u>	<u>no</u>	<u>FACU</u>		
3. <u>Ranunculus acris</u>	<u>40</u>	<u>yes</u>	<u>FAC</u>		
4. <u>Poa spp.</u>	<u><15</u>	<u>no</u>	<u>FAC</u>		
5. <u>Phalaris arundinace</u>	<u><10</u>	<u>no</u>	<u>FACW</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
	<u><60</u>	= Total Cover			
Woody Vine Stratum (Plot size: 15ft radius)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Remarks: small patch of red alder					

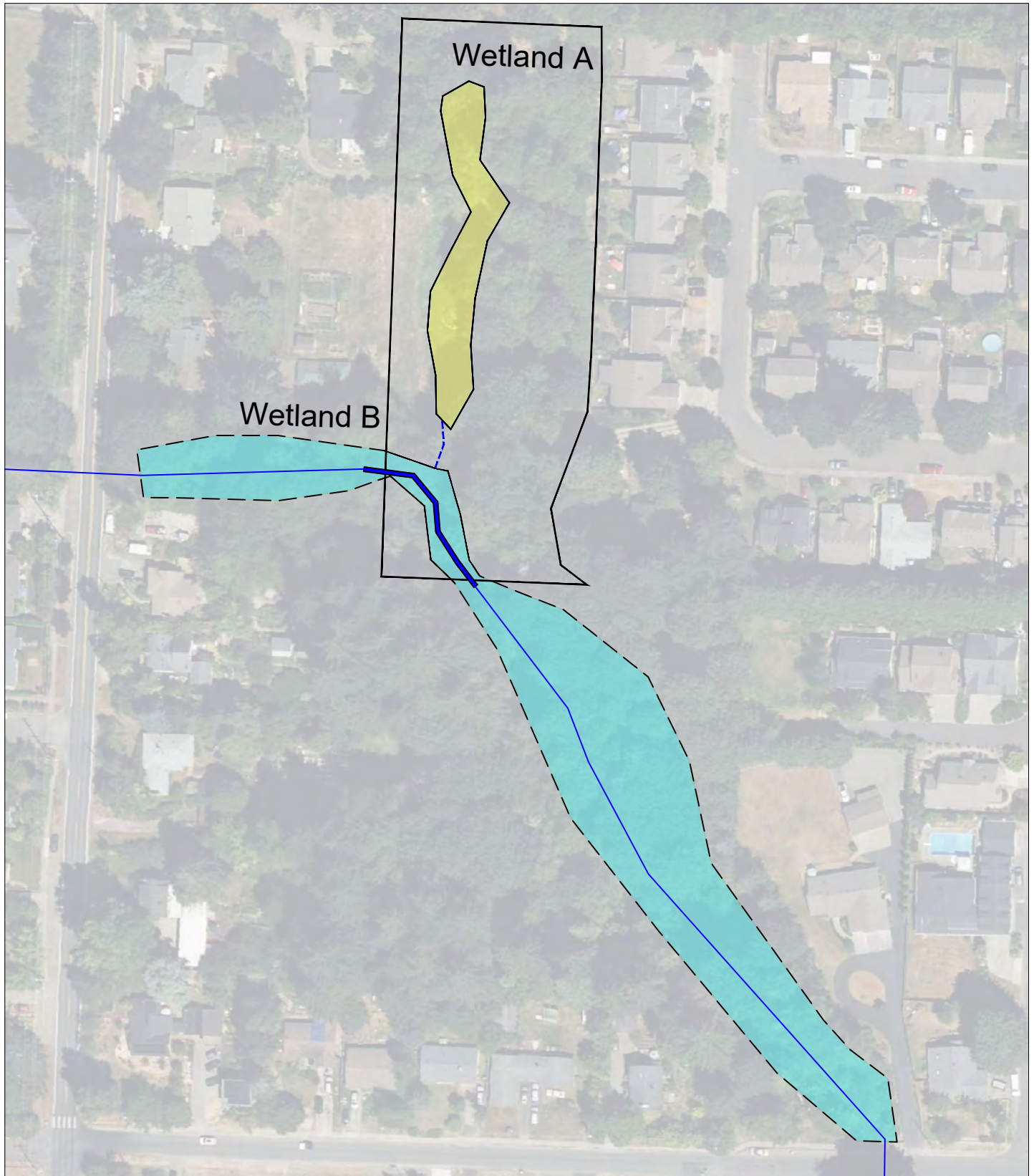
Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

APPENDIX B – Wetland Rating Worksheet



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
-  Scrub-shrub Seasonally-flooded
-  Emergent Seasonally-flooded

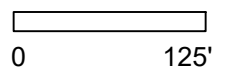
Figure 11

Gemini Corp

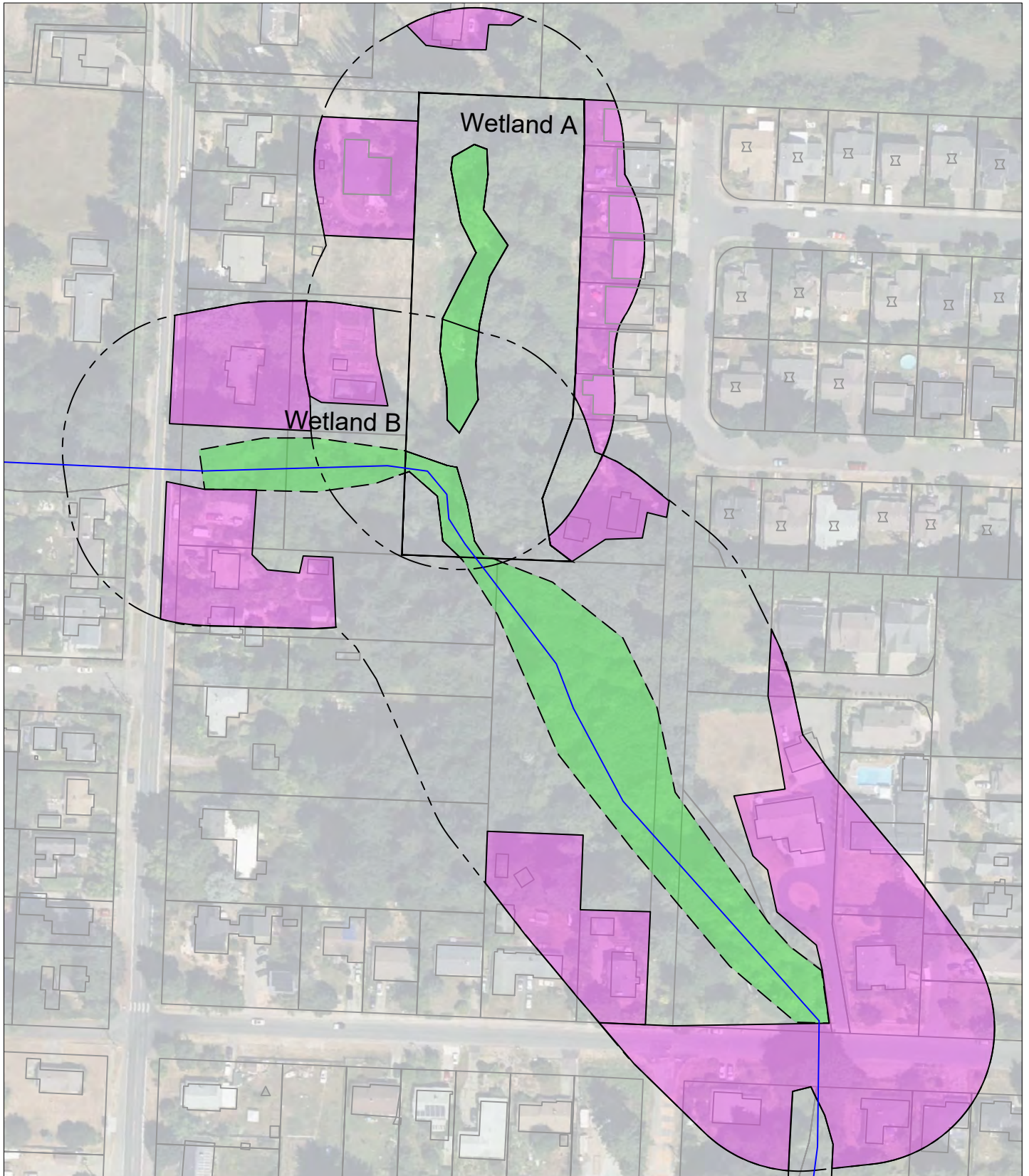
Veg Class & Hydroperiod








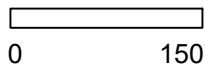





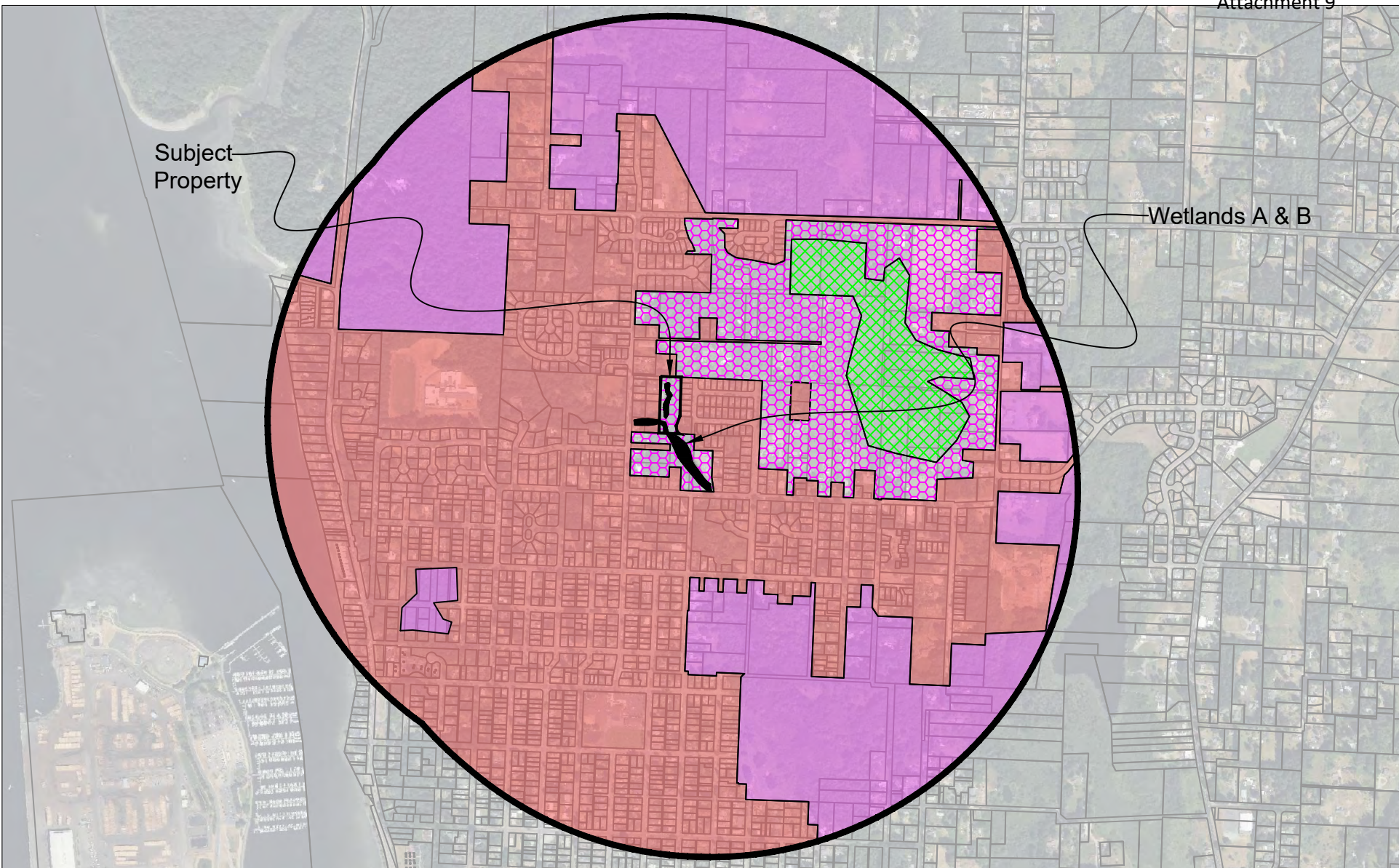
Scale: 1" = 125'



8 April 2023



 <p>EnviroVector OPTIMIZE USABLE LAND. curtis@envirovector.com www.envirovector.com 360-790-1559</p>	<table border="0"><tr><td></td><td>Wetland (Delineated)</td></tr><tr><td></td><td>Wetland (Not Delineated)</td></tr><tr><td></td><td>Potential Pollutants Wetland A (>10%) Wetland B (>10%)</td></tr></table>		Wetland (Delineated)		Wetland (Not Delineated)		Potential Pollutants Wetland A (>10%) Wetland B (>10%)	<p>Figure 12 Gemini Corp. Pollutants within 150'</p>	<p>Scale: 1" = 150'</p>  <p>0 150'</p> <p>8 April 2023</p>
	Wetland (Delineated)								
	Wetland (Not Delineated)								
	Potential Pollutants Wetland A (>10%) Wetland B (>10%)								



- Accessible Habitat (1,505,152 sf, 35 acres, 3.6%)
- Accessible Moderate to Low Intensity Land Use (4,243,310 sf, 97 acres, 10%)
- Total Undisturbed Habitat + Accessible Habitat (1,505,152 sf, 35 acres, 3.6%)
- Low to Moderate Intensity Land Use (17,203,899 sf, 395 acres, 40.9%)
- High Intensity Land Use (23,277,984 sf, 534 acres, 55%)
- 1km Polygon (42,074,606 sf, 965 acres)

H2.1: $3.6\% + 10.1\%/2 = 8.65\%$ (0 points) H2.2: $3.6\% + 40.9\%/2 = 24.05\%$ (2 point) H2.3: High Intensity = 55.3% (-2 points)

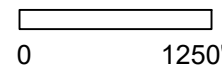
Figure 13

Gemini Corp.

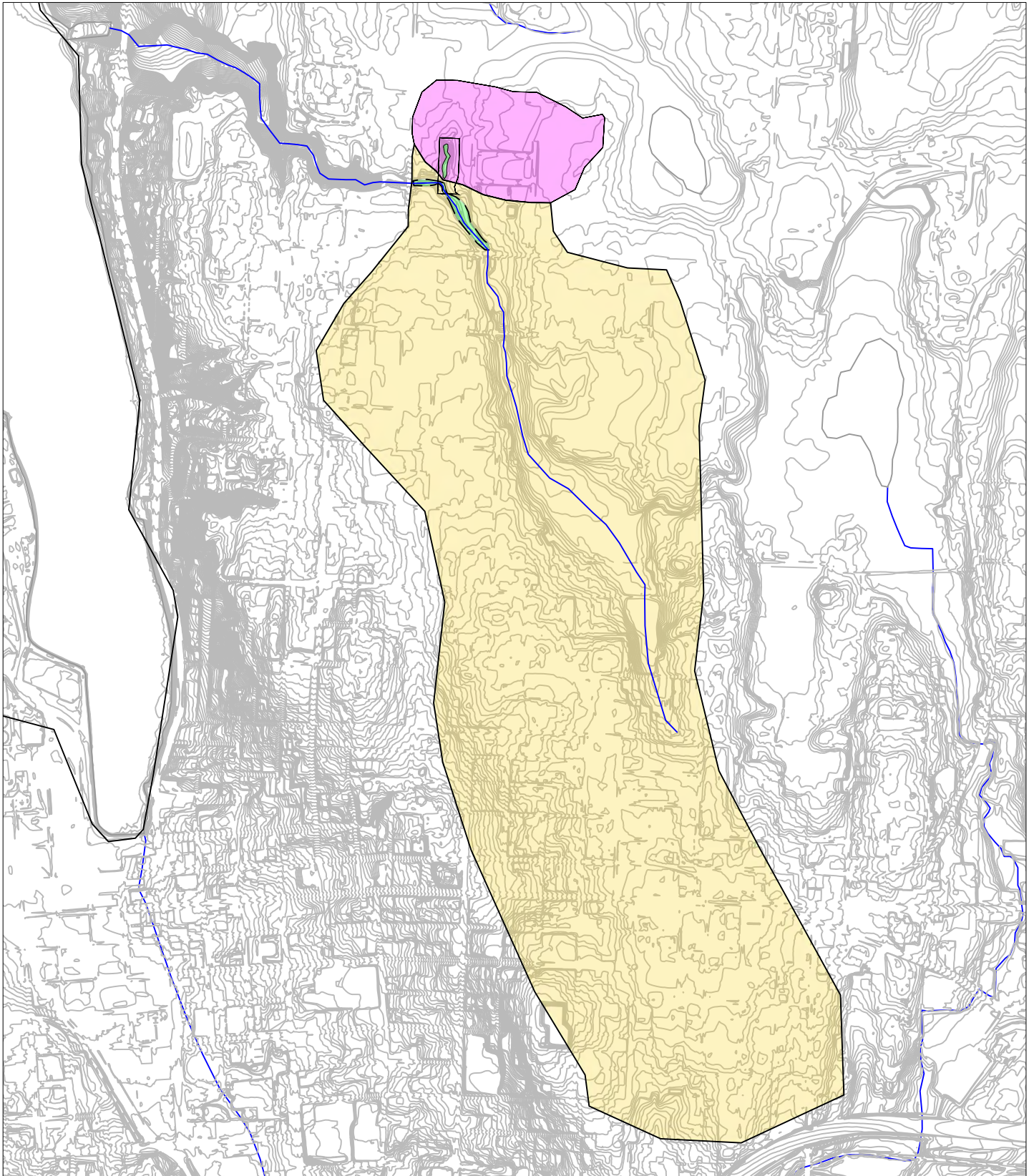
1 KM Polygon



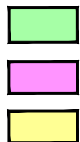
Scale: 1" = 1250'



8 April 2023



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Wetland
Wetland A: Contributing Basin (>100x)
Wetland B: Contributing Basin (>100x)

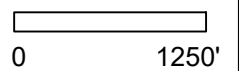
Figure 14

Gemini Corp.

Contributing
Basin

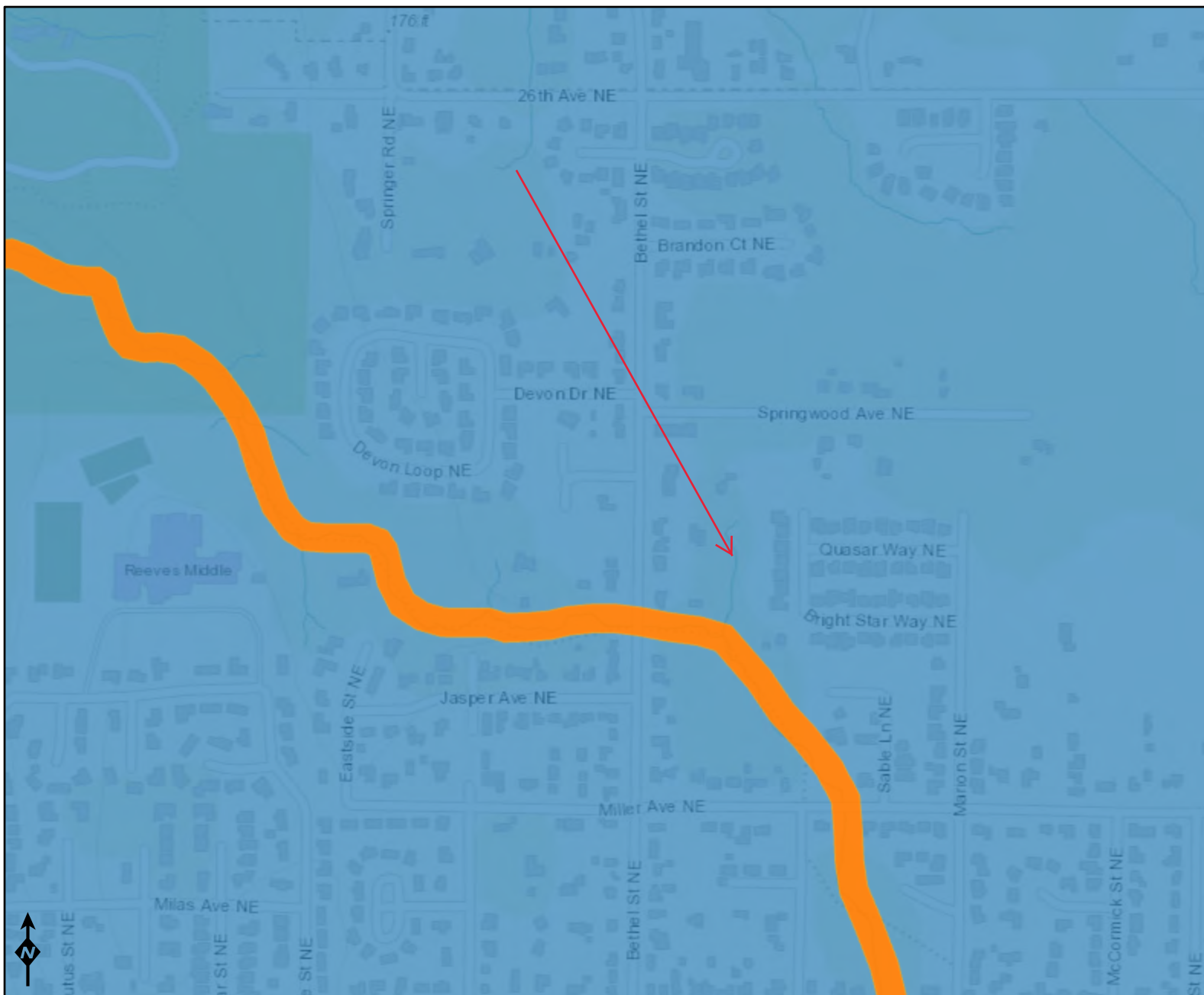


Scale: 1" = 1250'



8 April 2023

Figure W1



Assessed Water/Sediment

Water

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

Sediment

- Category 5 - 303d
- Category 4C
- Category 4B
- Category 4A
- Category 2
- Category 1

WQ Improvement Projects

- TMDL - Approved
- 4B - Approved
- STI - Approved
- ARP - Approved
- TMDL - In Development
- STI - In Development
- ARP - In Development

Subbasins (12 digit HUCs)

- HUC boundary

Subject Property



Photo 1. Neighbors appear to encroach onto subject property



Photo 2. North facing south on subject property



Photo 3. Reed canarygrass in Wetland A



Photo 4. Northern portion of subject property facing north



Photo 5. Neighbors appear to encroach onto subject property



Photo 6. Upland portion of property, trees cut



Photo 7. Cut material from slopes pushed into wetland



Photo 8. Central portion of property

Wetland A



Photo 9. Skunk cabbage (OBL) in Wetland A



Photo 10. Northern portion of Wetland A and buffer



Photo 11. Excavated area in southern portion of Wetland A



Photo 12. Skunk cabbage (OBL) in Wetland A



Photo 13. Flag A-7 on boundary of Wetland A



Photo 14. Flag A-8 on boundary of Wetland A



Photo 15. Flag A-14 on boundary of Wetland A



Photo 16. Flag A-19 on boundary of Wetland A



Photo 17. Record flag locations with Trimble at sub-foot accuracy



Photo 18. Excavated southern portion of Wetland A



Photo 19. Excavated southern portion of Wetland A



Photo 20. Excavated southern portion of Wetland A



Photo 21. Test Plot TP-A1, soils & reed canarygrass



Photo 22. Test Plot TP-A1, water parsley (OBL)



Photo 23. Test Plot TP-A1, upland soils and plants, no hydro



Photo 24. Test Plot TP-A1, upland soils and plants, no hydro

Wetland name or number Offsite Wetland A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Offsite Wetland A Date of site visit: 4 JUN 2025

Rated by Habitat Technologies Trained by Ecology? Yes No Date of training 2014

HGM Class used for rating Depressional Wetland has multiple HGM classes? Y N

Offsite wetland information primarily from prior rating and aerial photos

NOTE: Form is not complete without the required figures (figures can be combined).

Source of base aerial photo/map _____

Depressional Slope Wetland

OVERALL WETLAND CATEGORY II (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

_____ Category I – Total score = 23 - 27

Category II – Total score = 20 - 22

_____ Category III – Total score = 16 - 19

_____ Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat
Circle the appropriate ratings			
Site Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> M <input type="checkbox"/> L
Landscape Potential	H <input type="checkbox"/> <input checked="" type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> <input checked="" type="checkbox"/> M <input type="checkbox"/> L	H <input type="checkbox"/> M <input type="checkbox"/> <input checked="" type="checkbox"/> L
Value	<input checked="" type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L	<input checked="" type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L	<input checked="" type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> L
Score Based on Ratings	7	7	6
			TOTAL
			20

Score for each function based on three ratings
(order of ratings is not important)

9 = H, H, H
 8 = H, H, M
 7 = H, H, L
 7 = H, M, M
 6 = H, M, L
 6 = M, M, M
 5 = H, L, L
 5 = M, M, L
 4 = M, L, L
 3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	

Wetland name or number Offsite A**Maps and figures required to answer questions correctly for Western Washington****Depressional Wetlands**

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	Fig 11
Hydroperiods	D 1.4, H 1.2	Fig 12
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	Fig 12
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	Fig 12
Map of the contributing basin	D 4.3, D 5.3	Fig 14
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	Fig 13
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	W1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	W1

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number Offsite A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

NO – go to 2

YES – the wetland class is **Tidal Fringe** – go to 1.1

- 1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

NO – **Saltwater Tidal Fringe (Estuarine)**

YES – **Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe, it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat, and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

YES – The wetland class is **Flats**

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

3. Does the entire wetland unit **meet all** of the following criteria?

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size,

At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES – The wetland class is **Lake Fringe (Lacustrine Fringe)**

4. Does the entire wetland unit **meet all** of the following criteria?

The wetland is on a slope (slope can be very gradual),

The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheet flow, or in a swale without distinct banks,

The water leaves the wetland **without being impounded**.

NO – go to 5

YES – The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

Wetland name or number Offsite A

5. Does the entire wetland unit
- meet all**
- of the following criteria?

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

The overbank flooding occurs at least once every 2 years.

NO – go to 6

YES – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO – go to 7

YES – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched but has no obvious natural outlet.

NO – go to 8

YES – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

Wetland name or number Offsite A**DEPRESSIONAL AND FLATS WETLANDS****Water Quality Functions** - Indicators that the site functions to improve water quality

D 1.0. Does the site have the potential to improve water quality?

D 1.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. <u>The soil 2 in. below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 No = 0	0
D 1.3. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed plants > 95% of area points = 5 Wetland has persistent, ungrazed plants > ½ of area points = 3 Wetland has persistent, ungrazed plants ≥ 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > ½ total area of wetland points = 4 Area seasonally ponded is ≥ ¼ total area of wetland points = 2 Area seasonally ponded is < ¼ total area of wetland points = 0	2
Total for D 1	9

Add the points in the boxes above

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L

Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?

D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____ Yes = 1 No = 0	0
Total for D 2	2

Add the points in the boxes above

Rating of Landscape Potential If score is: 3 or 4 = H X 1 or 2 = M 0 = L

Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?

D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? (Answer YES if there is a TMDL in development or in effect for the basin in which the unit is found.) Yes = 2 No = 0	2
Total for D 3	4

Add the points in the boxes above

Rating of Value If score is: X 2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number Offsite A

DEPRESSIONAL AND FLATS WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation	
D 4.0. Does the site have the potential to reduce flooding and erosion?	
D 4.1. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (question 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	2
D 4.2. <u>Depth of storage during wet periods:</u> Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland X points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3
D 4.3. <u>Contribution of the wetland to storage in the watershed:</u> Estimate the ratio of the area of upstream basin contributing surface water to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	3
Total for D 4	8

Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L*Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	0
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	1
Total for D 5	2

Rating of Landscape Potential If score is: 3 = H X 1 or 2 = M 0 = L*Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?	
D 6.1. Is <u>the unit in a landscape that has flooding problems</u> ? Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met.</u> The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): <ul style="list-style-type: none"> • Flooding occurs in a sub-basin that is immediately downgradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther downgradient. points = 1 • Flooding from groundwater is an issue in the sub-basin. points = 1 • The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> _____ points = 0 • There are no problems with flooding downstream of the wetland. points = 0 	2
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for D 6	2

Rating of Value If score is: X 2-4 = H 1 = M 0 = L*Record the rating on the first page*

Wetland name or number Offsite A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac if the unit is at least 2.5 ac, or more than 10% of the unit if it is smaller than 2.5 ac.

Aquatic bed 4 structures or more: points = 4
 Emergent 3 structures: points = 2
 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1
 Forested (areas where trees have > 30% cover) 1 structure: points = 0
If the unit has a Forested class, check if:
 The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/groundcover) that each cover 20% within the Forested polygon

1

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 ac to count (see text for descriptions of hydroperiods).

Permanently flooded or inundated 4 or more types present: points = 3
 Seasonally flooded or inundated 3 types present: points = 2
 Occasionally flooded or inundated 2 types present: points = 1
 Saturated only 1 type present: points = 0
 Permanently flowing stream or river in, or adjacent to, the wetland
 Intermittently or seasonally flowing stream in, or adjacent to, the wetland
 Lake Fringe wetland **2 points**
 Freshwater tidal wetland **2 points**

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft². Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canada thistle**

If you counted: > 19 species points = 2
 5 - 19 species points = 1
 < 5 species points = 0

1

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.



None = 0 points



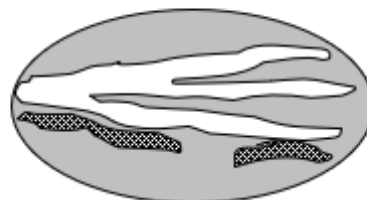
Low = 1 point



Moderate = 2 points



All three diagrams in this row are **High** = 3 points



1

Wetland name or number Offsite A

<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. <input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft long). <input type="checkbox"/> Standing snags (dbh > 4 in.) within the wetland <input checked="" type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) <input checked="" type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 above for the list of strata and H 1.5 in the manual for the list of aggressive plant species)</p>		3
Total for H 1	Add the points in the boxes above	8

Rating of Site Potential If score is: 15-18 = H 7-14 = M 0-6 = L

Record the rating on the first page

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include only habitat polygons accessible from the wetland. <i>Calculate:</i> % relatively undisturbed habitat <u>3.6</u> + [(% moderate and low intensity land uses)/2] <u>10.2</u> <u>8.65</u> % Total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0</p>		0
<p>H 2.2. Total habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % relatively undisturbed habitat <u>3.6</u> + [(% moderate and low intensity land uses)/2] <u>40.9</u> <u>24.05</u> % Total habitat > 50% of Polygon points = 3 Total habitat 10-50% and in 1-3 patches points = 2 Total habitat 10-50% and > 3 patches points = 1 Total habitat < 10% of 1 km Polygon points = 0</p>		2
<p>H 2.3. Land use intensity in 1 km Polygon: > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0</p>		-2
Total for H 2	Add the points in the boxes above	0

Rating of Landscape Potential If score is: 4-6 = H 1-3 = M < 1 = L

Record the rating on the first page

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 — It has 3 or more Priority Habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW Priority Species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources data — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 Priority Habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0</p>		2

Rating of Value If score is: 2 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number Offsite A

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). [Priority Habitat and Species List](#).¹³³ This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife. This habitat automatically counts if mapped on the PHS online map within 100m of the wetland. If not mapped, a determination can be made in the field.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire Deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Do not select if Fresh Deepwater habitat is also present.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in. (81 cm) diameter at breast height (dbh) or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in. (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

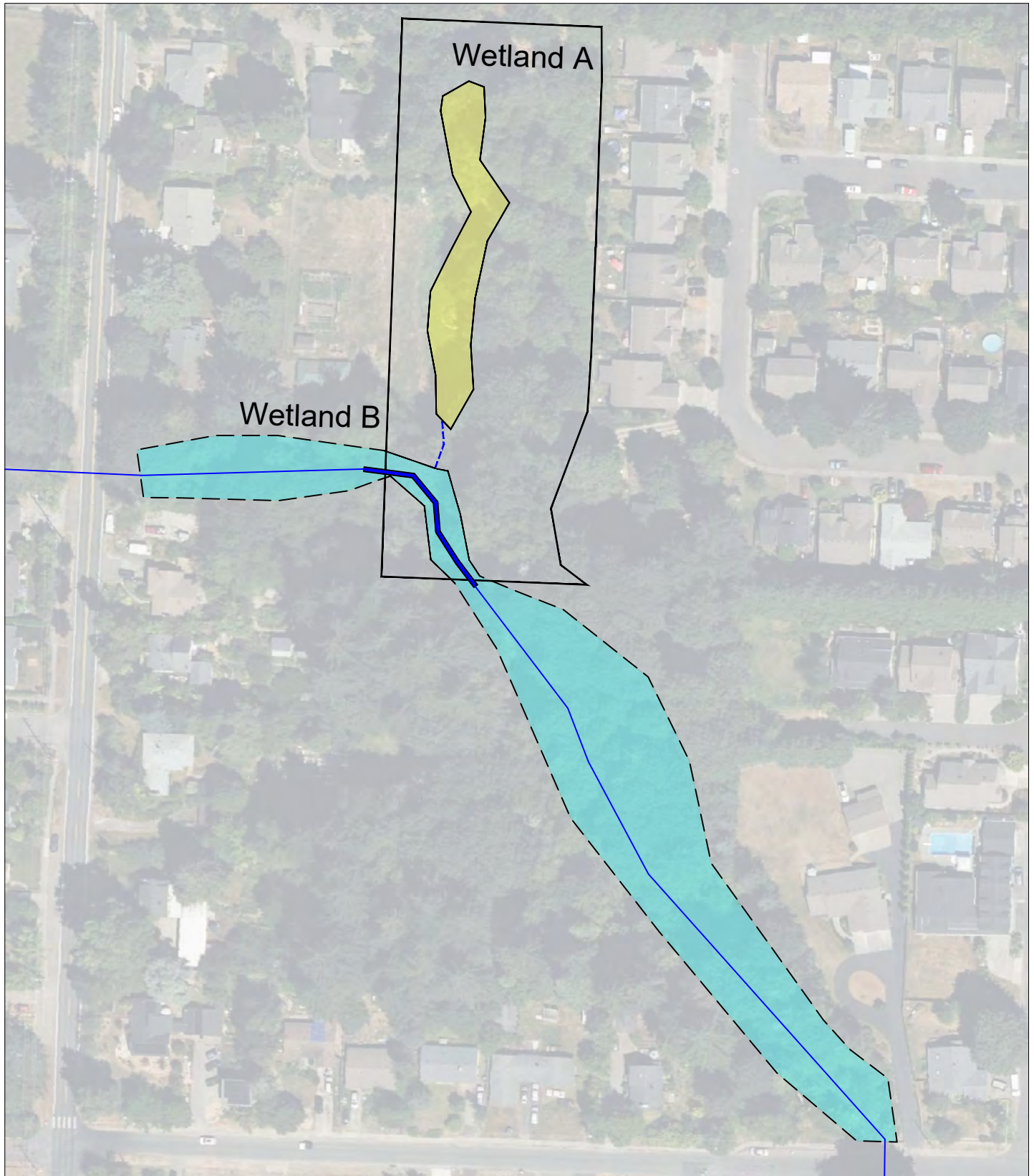
¹³³ <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

Wetland name or number Offsite A

- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, [WDFW's Management Recommendations for Oregon White Oak](#)¹³⁴ provides more detail for determining if they are Priority Habitats
- Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in. (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in. (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

¹³⁴ <https://wdfw.wa.gov/publications/00030/wdfw00030.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

APPENDIX C – EnviroVector Report



curtis@envirovector.com
www.envirovector.com
360-790-1559



-  Scrub-shrub Seasonally-flooded
-  Emergent Seasonally-flooded

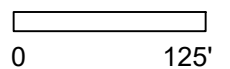
Figure 11

Gemini Corp

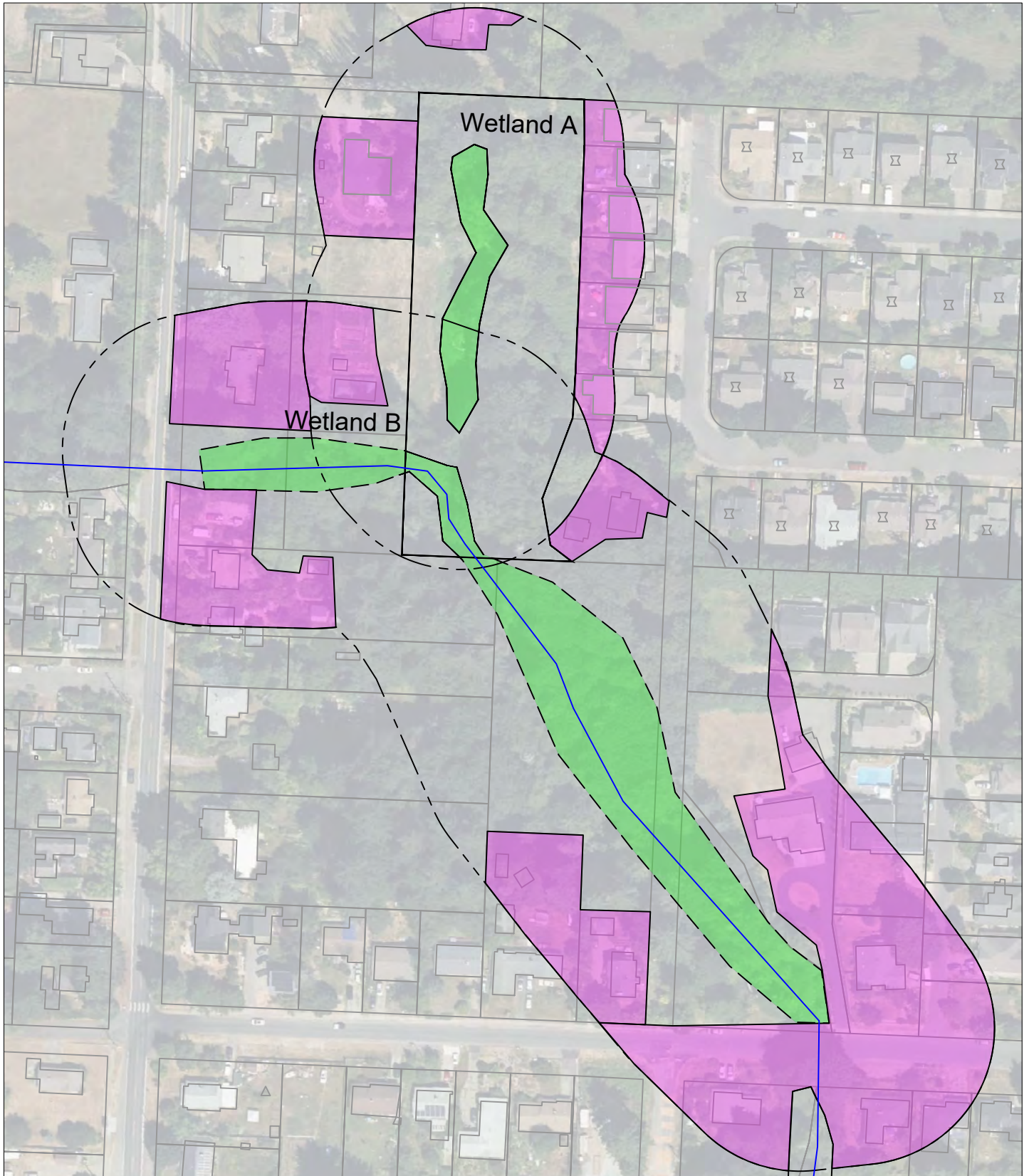
Veg Class & Hydroperiod








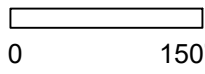





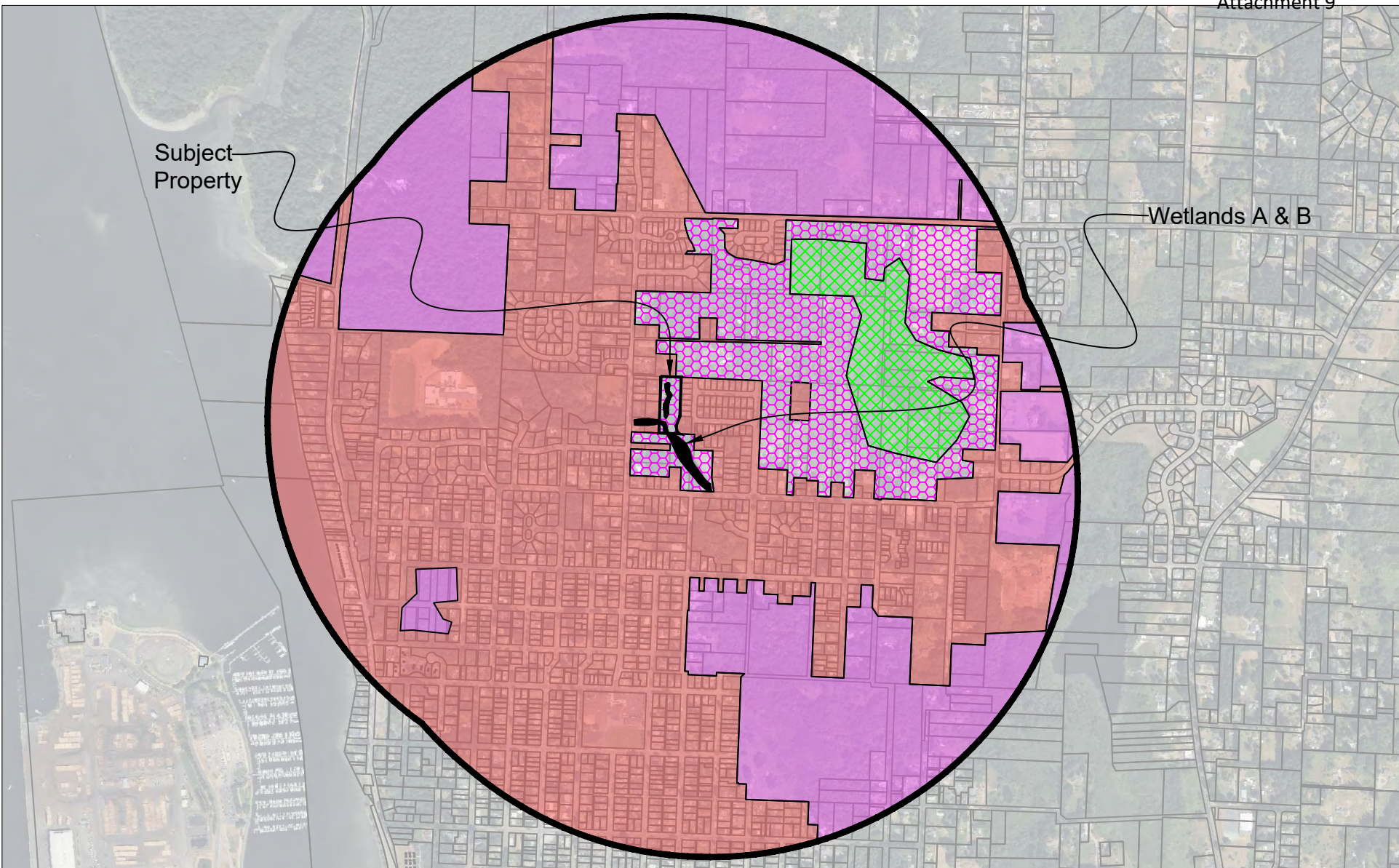
Scale: 1" = 125'



8 April 2023



 <p>EnviroVector OPTIMIZE USABLE LAND. curtis@envirovector.com www.envirovector.com 360-790-1559</p>	<table border="0"><tr><td></td><td>Wetland (Delineated)</td></tr><tr><td></td><td>Wetland (Not Delineated)</td></tr><tr><td></td><td>Potential Pollutants Wetland A (>10%) Wetland B (>10%)</td></tr></table>		Wetland (Delineated)		Wetland (Not Delineated)		Potential Pollutants Wetland A (>10%) Wetland B (>10%)	<p>Figure 12 Gemini Corp. Pollutants within 150'</p>	<p>Scale: 1" = 150'</p>  <p>0 150'</p> <p>8 April 2023</p>
	Wetland (Delineated)								
	Wetland (Not Delineated)								
	Potential Pollutants Wetland A (>10%) Wetland B (>10%)								



- Accessible Habitat (1,505,152 sf, 35 acres, 3.6%)
- Accessible Moderate to Low Intensity Land Use (4,243,310 sf, 97 acres, 10%)
- Total Undisturbed Habitat + Accessible Habitat (1,505,152 sf, 35 acres, 3.6%)
- Low to Moderate Intensity Land Use (17,203,899 sf, 395 acres, 40.9%)
- High Intensity Land Use (23,277,984 sf, 534 acres, 55%)
- 1km Polygon (42,074,606 sf, 965 acres)

H2.1: $3.6\% + 10.1\%/2 = 8.65\%$ (0 points) H2.2: $3.6\% + 40.9\%/2 = 24.05\%$ (2 point) H2.3: High Intensity = 55.3% (-2 points)

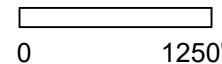
Figure 13

Gemini Corp.

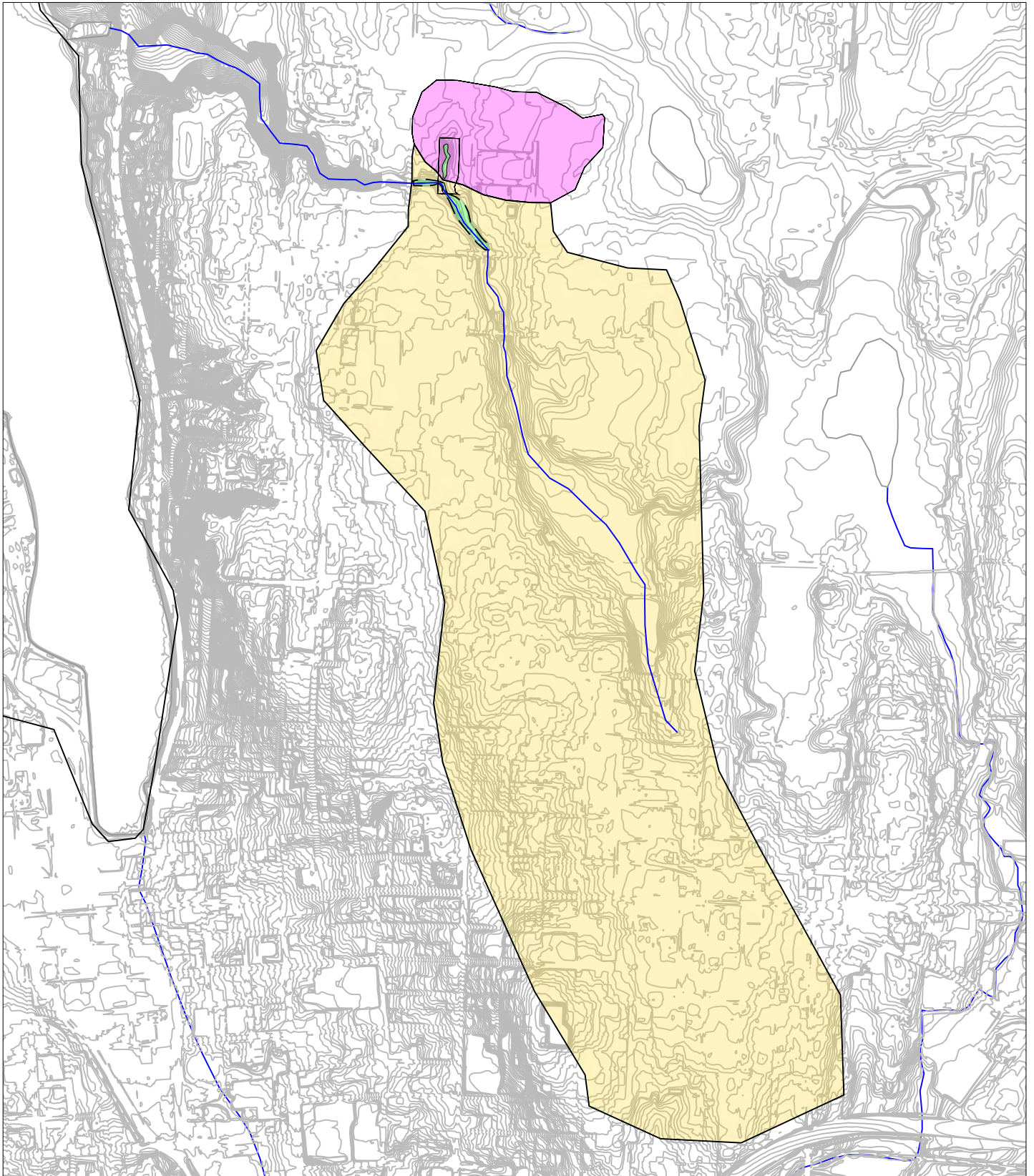
1 KM Polygon



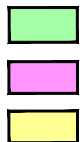
Scale: 1" = 1250'



8 April 2023



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Wetland
Wetland A: Contributing Basin (>100x)
Wetland B: Contributing Basin (>100x)

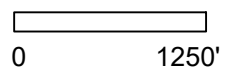
Figure 14

Gemini Corp.

Contributing
Basin



Scale: 1" = 1250'



8 April 2023

APPENDIX A

PHOTOGRAPHS

Subject Property



Photo 1. Neighbors appear to encroach onto subject property



Photo 2. North facing south on subject property



Photo 3. Reed canarygrass in Wetland A



Photo 4. Northern portion of subject property facing north



Photo 5. Neighbors appear to encroach onto subject property



Photo 6. Upland portion of property, trees cut



Photo 7. Cut material from slopes pushed into wetland



Photo 8. Central portion of property

Wetland A



Photo 9. Skunk cabbage (OBL) in Wetland A



Photo 10. Northern portion of Wetland A and buffer



Photo 11. Excavated area in southern portion of Wetland A



Photo 12. Skunk cabbage (OBL) in Wetland A



Photo 13. Flag A-7 on boundary of Wetland A



Photo 14. Flag A-8 on boundary of Wetland A



Photo 15. Flag A-14 on boundary of Wetland A



Photo 16. Flag A-19 on boundary of Wetland A



Photo 17. Record flag locations with Trimble at sub-foot accuracy



Photo 18. Excavated southern portion of Wetland A



Photo 19. Excavated southern portion of Wetland A



Photo 20. Excavated southern portion of Wetland A



Photo 21. Test Plot TP-A1, soils & reed canarygrass



Photo 22. Test Plot TP-A1, water parsley (OBL)



Photo 23. Test Plot TP-A1, upland soils and plants, no hydro



Photo 24. Test Plot TP-A1, upland soils and plants, no hydro

Wetland A Impacts



Photo 25. Asphalt, logs, concrete, and fill in wetland A



Photo 26. Asphalt, concrete, logs, and fill in wetland A



Photo 27. Asphalt, concrete, logs, and fill in wetland A



Photo 28. Asphalt, concrete, logs, and fill in wetland A



Photo 29. Concrete chunks in Wetland A



Photo 30. Asphalt chunks in Wetland A



Photo 31. Trees cut in Wetland A buffer



Photo 32. Trees cut in Wetland A buffer



Photo 33. Artistic fill in Wetland A, logs, soils, asphalt, concrete



Photo 34. Asphalt in Wetland A and wetland buffer



Photo 35. Artistic fill in Wetland A, logs, soils, asphalt, concrete



Photo 36. Artistic fill in Wetland A, logs, soils, asphalt, concrete



Photo 37. Large log and brush pile in Wetland A



Photo 38. Concrete chunks in Wetland A



Photo 39. Trees cut in Wetland buffer



Photo 40. Roots cut on standing tree causes hazard



Photo 41. Concrete trash in Wetland A and buffer



Photo 42. Concrete trash in Wetland A and buffer



Photo 43. Cut slopes and wetland fill



Photo 44. Slopes cut in buffer on northern portion of property



Photo 45. Slopes cut in buffer on northern portion of property



Photo 46. Cut slopes and cut trees in wetland buffer



Photo 47. Cut slopes in wetland buffer



Photo 48. Impact areas are flagged



Photo 49. Log and brush pile



Photo 50. Roots cut on standing tree, causing hazard



Photo 51. Roots cut on standing tree, causing hazard



Photo 52. Trees cut in buffer area



Photo 53. English ivy is killing trees in buffer



Photo 54. English Ivy covers the ground in buffer



Photo 55. Soils were excavated and placed in soils pile



Photo 56. Excavation in southern portion of Wetland A

Cut Channel Draining Wetland A



Photo 57. Excavated ditch draining Wetland A



Photo 58. Excavated ditch draining Wetland A



Photo 59. Excavated ditch draining Wetland A



Photo 60. Excavated ditch draining Wetland A



Photo 61. Logs from cut trees used to armor excavated ditch



Photo 62. Logs from cut trees used to armor excavated ditch



Photo 63. Logs from cut trees used to armor excavated ditch



Photo 64. Logs from cut trees used to armor excavated ditch



Photo 65. Excavations in wetland to enhance draining of wetland



Photo 66. Cut channel and armored bank



Photo 67. Delineated cut ditch at Flag D-2



Photo 68. Delineated cut ditch at Flag D-2



Photo 69. Delineated cut ditch at Flag D-3



Photo 70. Delineated cut ditch at Flag D-3

Wetland B



Photo 71. Wetland B Flag Ba-1, well-defined wetland boundary



Photo 72. Wetland B Flag Ba-1, well-defined wetland boundary



Photo 73. Wetland B, well-defined wetland edge



Photo 74. Scrub-shrub wetland



Photo 75. Wetland B, disturbed area near cut ditch



Photo 76. Wetland B, disturbed area near cut ditch

Mission Creek



Photo 77. Mission Creek at Flag S-1



Photo 78. Mission Creek at Flag S-2



Photo 79. Mission Creek in Wetland B



Photo 80. Mission Creek at Flag S-6



Photo 81. Mission Creek through Wetland B



Photo 82. Mission Creek delineation of OHWM

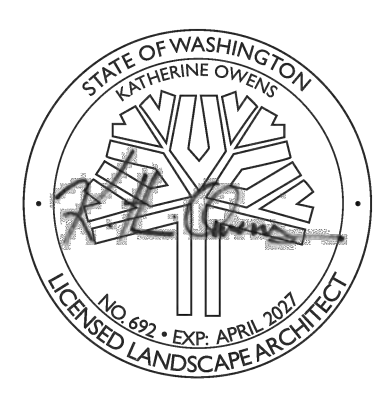
APPENDIX D – Buffer Enhancement and Restoration Program



SPRINGWOOD PLAT
 1609 SPRINGWOOD
 OLYMPIA, WA
 GARRETTE CUSTOM HOMES - PUGET SOUND
 4802 TACOMA MALL BLVD
 TACOMA, WA

REVISIONS:
 E. NEW SITE LAYOUT
 F. REVISED WITH NEW CIVIL BASE

DRAWING ISSUED FOR:
 AGENCY
 REVIEW
 DATE: NOVEMBER 24, 2025

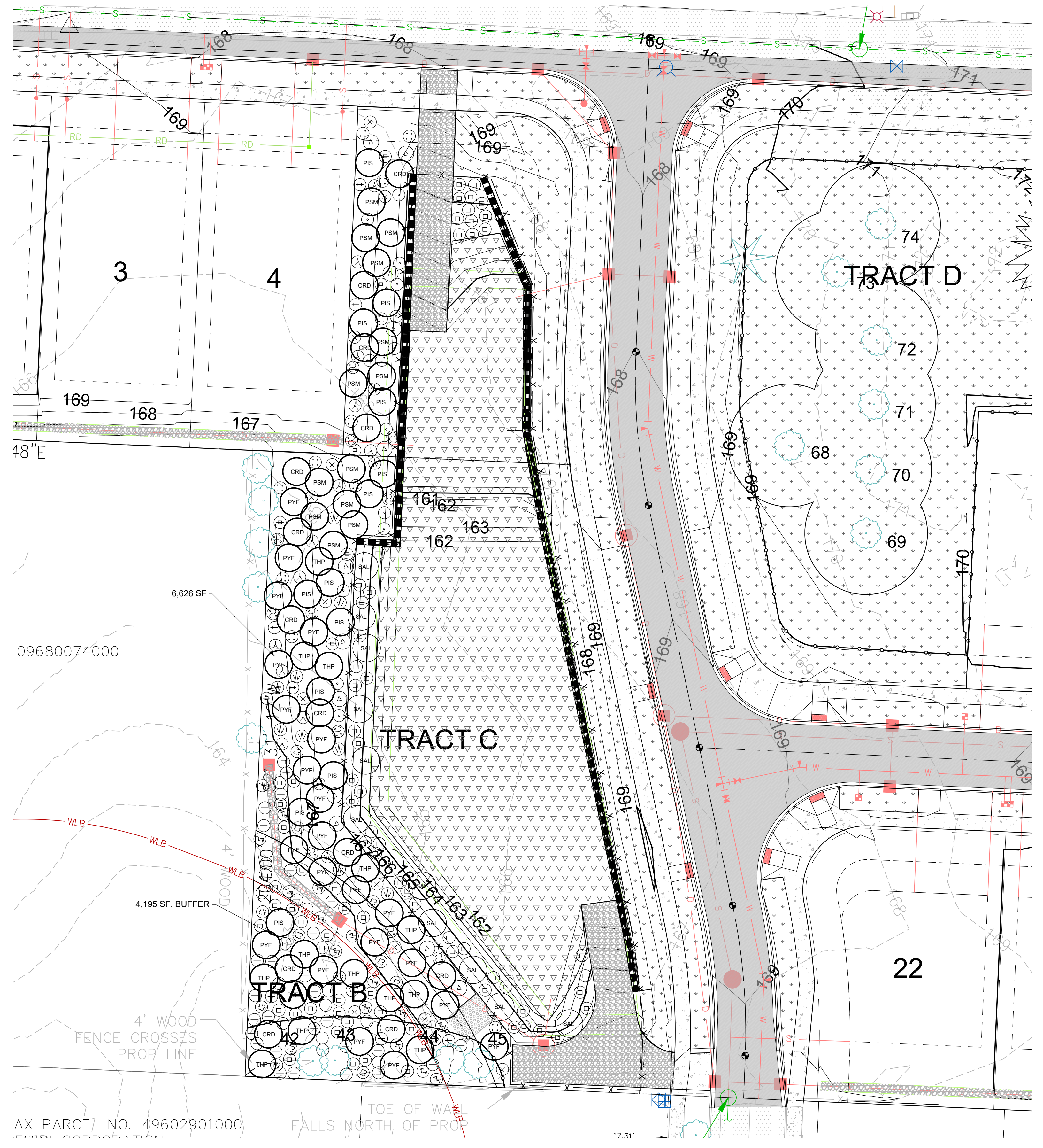


PROJECT NO: 25022
 FILE NAME: 25022LSF
 DRAWN BY: KLO
 CHECKED BY: KLO
 X-REFS: CIVIL
 PLOT SCALE: 1:1
 DRAWING SCALES: 1:20

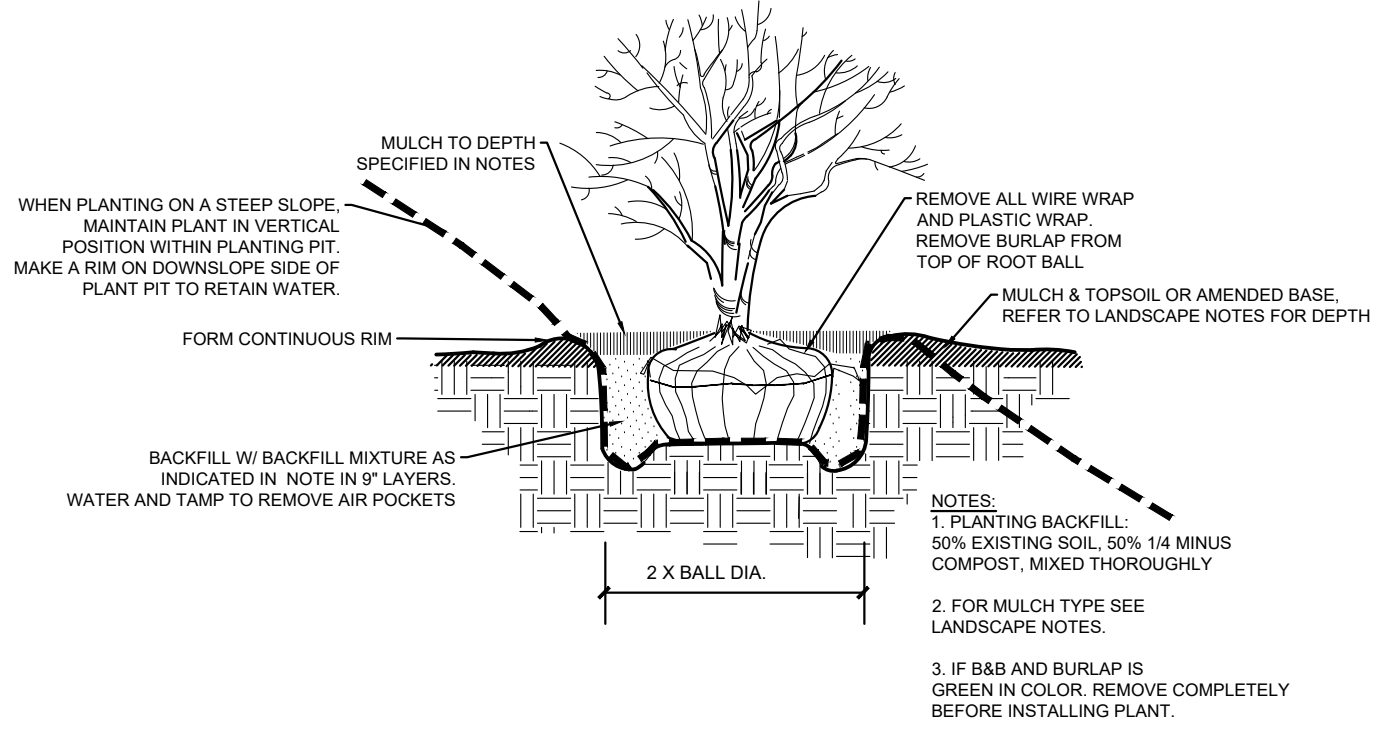
DRAWING CONTENTS
BUFFER PLANTING PLAN

DRAWING NO.:

WL1

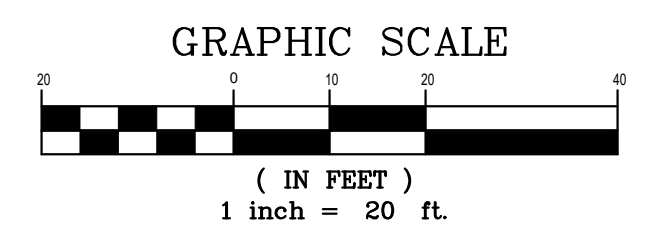


NATIVE PLANT LIST			
SYMBOL	QTY	DESCRIPTION	SIZE
TREES			
CRD	13	Crataegus douglasii Western Hawthorne	2 Gal. Min. @10' OC
PYF	23	Pyrus fuscus Western Crabapple	2 Gal. Min. @10' OC
PIS	13	Picea sitchensis Sitka Spruce	2 Gal. Min. @10' OC
PSM	13	Pseudotsuga menziesii Douglas Fir	2 Gal. Min. @10' OC
THP	13	Thuja plicata Western Red Cedar	2 Gal. Min. @10' OC
SHRUBS			
Δ	12	Acer circinatum Vine Maple	1 Gal. Min. @ 5' OC
⊙	12	Berberis aquifolium Tall Oregon Grape	1 Gal. Min. @ 5' OC
○	12	Berberis nervosa Low Oregon Grape	1 Gal. Min. @ 5' OC
⊗	12	Corylus cornuta Hazlenut	1 Gal. Min. @ 5' OC
□	84	Cornus stolonifera Red Osier Dogwood	1 Gal. Min. @ 5' OC
⊕	12	Holodiscus discolor Oceansoray	1 Gal. Min. @ 5' OC
⊗	16	Lonicera involucrata Black Twinberry	1 Gal. Min. @ 5' OC
⊕	13	Physocarpus capitatus Ninebark	1 Gal. Min. @ 5' OC
⊕	12	Ribes sanguineum Flowering Currant	1 Gal. Min. @ 5' OC
⊕	12	Rosa gymnocarpa Wild Rose	1 Gal. Min. @ 5' OC
⊕	38	Rosa nutkana Nootka Rose	1 Gal. Min. @ 5' OC
⊕	12	Salix sitchensis Sitka Willow	1 Gal. Min. @ 5' OC
⊕	12	Symphoricarpos albus Snowberry	1 Gal. Min. @ 5' OC



SHRUB PLANTING DETAIL
 No Scale

BUFER PLANTING PLAN



PHOTOS



General view westerly of the managed western portion of the project site.



View easterly from the southwestern portion of the project site.



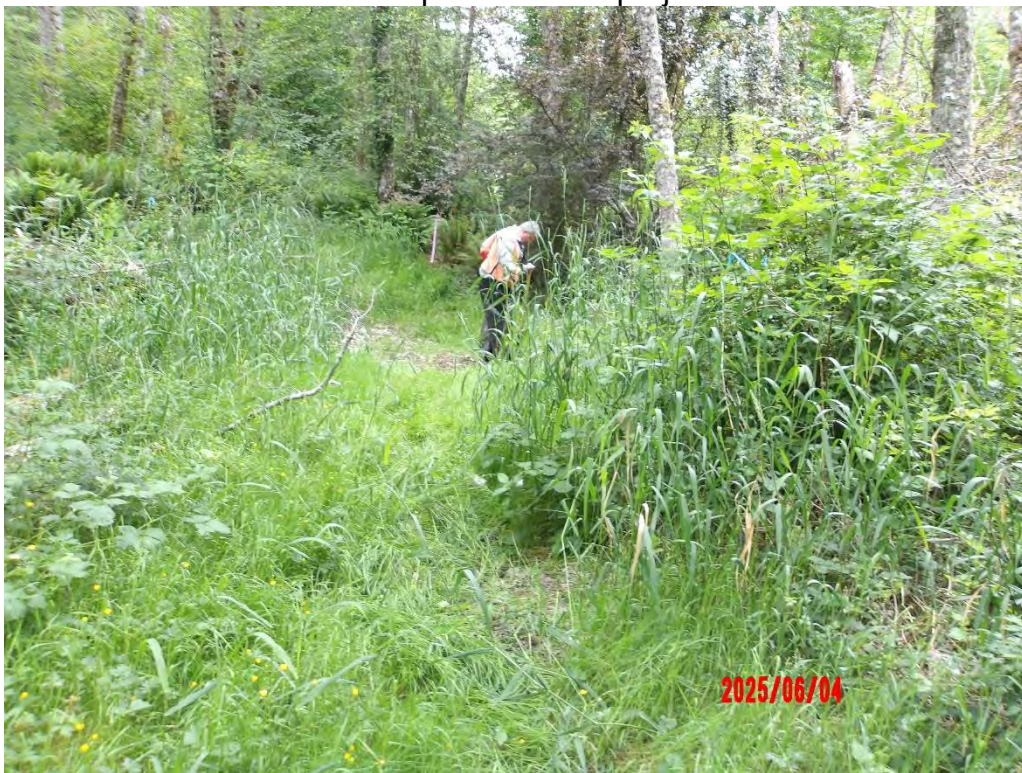
View southerly from the southwestern portion of the project site of Offsite Wetland A.



General view of the upland forest plant community dominating the eastern portion of the project site. At Sample Plot SPT1.



View of the small depression formed in a 90 degree turn along an internal roadway in the eastern portion of the project site.



View of the internal roadway through the eastern portion of the project site outside of the small depression noted in the photo above.



View of the forested upland character of the eastern portion of the project site along the created internal roadway.



View of the soil characteristics within the majority of the created internal roadway in the eastern portion of the project site.



View of the upland forested character of the eastern portion of the project site.



10% for art.